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The Ontario Economic Review *is prepared and edited monthly in the Economic Analysis Branch of the Department of Economics and Development and is available free of charge. The review is intended to provide current information on economic activity in Ontario and to act as a forum for the results of research in the public service on matters affecting the Ontario economy. The signed articles reflect the opinions of their authors and do not necessarily represent the views of the Economic Analysis Branch. All correspondence should be directed to the Editor,* Ontario Economic Review, *Office of the Chief Economist, Parliament Buildings, Toronto 5.*

THE ECONOMY:
A LOOK BACK AT 1966

All in all, it was a good year . . .

Like the immediately preceding years, 1966 on the whole was a year of impressive growth. Gross product, manufacturing shipments, exports, income and employment all enjoyed gains which took them to record high levels. Ontario and Canada as a whole both shared in this continued growth of prosperity – a growth which has now made the period 1961 to 1966 one of the longest expansions of the twentieth century.

Several stimuli were behind this upward movement in 1966. Foremost of these was capital investment, as indeed it has been for the past few years. Business investment rose close to 15 per cent from 1965 to 1966, as non-residential construction activity in particular continued its high-speed advance. Exports were another driving force. Canada's sales initiative and generally buoyant world conditions brought Canadian domestic exports up past the $10 billion mark, an annual gain of over 18 per cent. The other stimulus was government spending which, including all levels of government, increased approximately 15 per cent. Provincial and municipal government spending increased slightly more rapidly than that of the federal government. It was the borrowings from the Canada and Quebec pension plan funds that permitted these two levels of government to continue their substantial capital expenditure programs during a year of rather tight money conditions.

These stimuli produced in Canada a record value for gross national product. In 1966 Canada's GNP soared to $57.8 billion, 10.9 per cent higher than the $52.1 billion of 1965. Ontario's gross provincial product approached $23 billion at the same time, up almost as much in percentage terms. For both Ontario and Canada as a whole, however, an unusually high rate of increase in prices reduced real growth to between approximately five and six per cent. Despite the fact that Ontario has less than 35 per cent of the nation's population, the provincial total for wages and salaries reached $10.4 billion last year – over 40 per cent of the Canadian figure. Estimated per capita personal income was approximately $2,500, one of the highest figures of all the provinces. Another indication of Ontario's favourable performance is the record value recorded in manufacturing shipments. These increased almost 10 per cent, rising from $17.6 billion in 1965 to $19.3 billion in 1966. And no list of Ontario's accomplishments could omit the impressive employment record of last year: a four per cent increase in the labour force was matched by a four per cent increase in employment – leaving an unemployment rate of 2.5 per cent, well below the average of 4.2 per cent recorded for the rest of the nation.

. . . but it was a year with a difference

While overall growth in Ontario – and Canada – was admittedly quite impressive, 1966 was not a year free of problems. In fact, a look at developments *during* the year unfolds a fairly different picture of the economy, a picture that annual statistics are not able to give.

Were it necessary to attach a label to the economy's performance, perhaps it would be named the year of readjustment. In the early years of the current expansion there was for the most part a certain degree of slack – slack which could be taken up as the economy heightened the pace of its advance. But by 1965 there were visible signs that this slack had disappeared: unemployment was down to a very low figure, and the heightened demands in the economy began to push prices upward at a faster and faster rate. These signs evoked some concern about the gradual build-up of inflationary pressures, and led to more and more credit tightening during 1965. One of the first visible effects on the economy was a shift away from mortgage lending, producing a noticeable decline in the number of housing starts in the fall. Nevertheless, the pressures of demand remained strong right to the end of 1965.

It was in this setting that 1966 began. The economy was moving ahead too quickly, in effect advancing at an unsustainable rate. There were visible signs of the frantic pace of the economy: new non-residential construction (seasonally adjusted) in the first quarter of the year rose over eight per cent from the last quarter of 1965; and exports in the first few months, stimulated by the Canada-United States

Automotive Free Trade Agreement, were 20 per cent higher than in corresponding months of 1965. Contributing to this was a jump in personal expenditure beyond the very high level reached in the fourth quarter of 1965. (A small part of this increase could be attributed to the high level of retail sales in Ontario in anticipation of a two per cent increase in Ontario's retail sales tax.) The combined effect was to produce a GNP registering the strongest quarterly gain of the current expansion. Unfortunately there was another effect – the largest quarterly price increase in several years. While much of the increase was attributable to the sharp rise in the food price index – which was largely due to certain independent factors – there were conspicuous increases in most of the other categories.

With this apparently inflationary situation facing the federal government, the decision was taken to supplement monetary tightening with other restraints. In his March budget the Minister of Finance, Mitchell Sharp, put into effect a new device for postponing business investment. A five per cent refundable tax was imposed on corporation cash profits in excess of $30,000, payable for 18 months beginning May 1st. In addition to this, capital cost allowances on most building and machinery items were reduced for an 18 month period, and personal income taxes were increased on average and above-average incomes (reduced slightly on low incomes), offsetting the tax cuts of the previous year. A request that business postpone capital outlays was accompanied by a statement of the federal government's intention to postpone 10 per cent of its own construction program for the fiscal year 1966-67.

The immediate effect of these measures was to produce a levelling out in economic activity in the second quarter of the year. Production reached a plateau, as the Index of Industrial Production remained virtually stable. Hardest hit was the durables manufacturing sector, due to a sharp decline in automobile sales. (While the Canadian measures of restraint may have contributed to this, the drop in sales was actually a North-America-wide phenomenon.) Inventories mounted very sharply in the April-to-June period as retail sales plummeted.

The rate of increase in Canada's business investment began to react only slowly to these restraining forces. In fact, investment in new plant and equipment increased three per cent from the first quarter. Non-residential construction, however, was hit hard and increased less than one per cent. The quarterly rate of growth in GNP (seasonally adjusted at annual rates) dropped from 4.6 per cent in the first quarter to 2.2 per cent in the second.

The third quarter of the year presented a rather mixed picture, although the net effect was a very minimal increase of 0.6 per cent in GNP over the second quarter (all of this was accounted for by price increases). Personal expenditure on consumer goods and services rose over three per cent, in fact the largest quarterly gain of the current expansion, both in value and real terms. Increased spending on new cars was one major contributor to this gain, and was the result of special discounts offered to clear existing inventories (before the new models arrived) and the earlier-than-usual introduction of new model cars. The demand for other goods and services showed a marked improvement as well, as did the demand for goods for export.

But this improvement was not at all reflected in increased industrial production. Large expenditures on consumer goods were instead met by reducing inventories (and by increasing imports). The Index of Industrial Production actually declined, though admittedly because of the output-curtailing effects of strikes, particularly in the mining industry. Manufacturing production itself barely managed to remain at the level of the previous quarter. Business investment dropped about three per cent, with large declines experienced in both residential and non-residential construction.

The final few months of the year saw the Canadian economy turn upward from this period of virtually no growth. Although new residential construction was still hampered by lack of funds and continued to decline, business investment in plant and equipment and non-residential construction improved. Consumer spending rose too, but not at the same rate as it had in the third quarter. Once again it was a sagging car market that offset increased purchases of non-durables and services. Business non-farm inventories increased slightly.

The steady rise of prices, which had been the object of widespread concern throughout much of the year, finally settled down to a more moderate, though still not small rate of increase. Food prices in fact showed almost no increase at all in the last part of 1966.

The year of readjustment

This quarterly approach to developments in the economy does indeed reveal facts otherwise concealed in the annual aggregates. It is now possible to see 1966 as a year which began with economic growth climbing at a tremendous – and unsustainable – pace; a year in which there followed a sharp curtailment of expansion, with production reaching a plateau,

followed by a gradual movement toward re-establishing a moderate and sustainable rate of expansion. By the end of the year there were signs that the readjustment was under way, but that some time would have to pass before discovering if the *sustainable* rate of growth attained was also the *desirable* rate. The problem continues to be one of selecting policies which on the one hand promote economic growth, but which on the other do not give rise to rapid price increases.

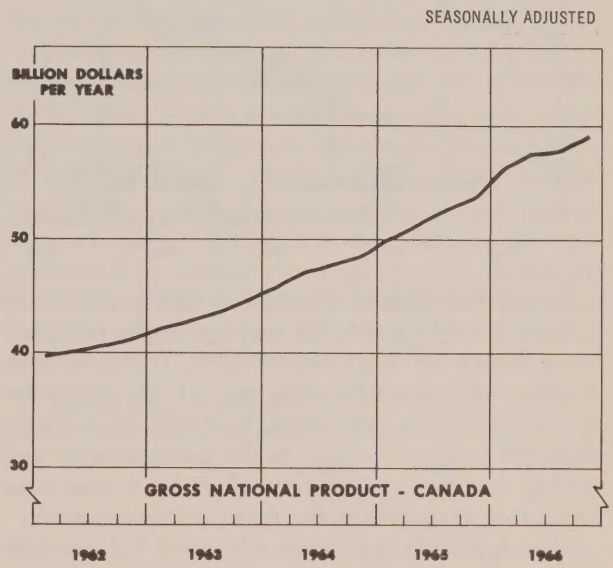
In the first quarter of 1966, when the economy was expanding extremely rapidly and when policies of restraint were announced, some disagreement was voiced as to the suitability of these new measures. The feeling was that the economy could not sustain its rapid growth in any event, and that it would on its own accord, under existing tight money conditions, begin to slow down. Introducing new policies of restraint on investment, it was maintained, would only serve to dampen the economy beyond the desirable point, bringing the expansion to a standstill. From the developments of the second and third quarters it is quite apparent that this did indeed take place. It is possible to debate the extent to which the slowdown resulted from cooling and not from the negative effects of industrial disputes; but there can be little doubt that the dampening measures did contribute significantly to a rather marked cutback in the growth of the economy.

A major part of the argument against the restriction of investment was based on the contention that investment in plant and equipment and construction had to be sustained at an adequate level to keep productivity increases from slowing down in the long run. Signs that existing productivity (or output per man-year) was not increasing fast enough were evident last year. In fact, average increases in wages and salaries considerably exceeded gains in productivity. The general decline of economic activity in the second and third quarters resulted in a productivity increase of only approximately one per cent in the non-agricultural sector. This was considerably less than the three per cent advances of 1964 and 1965, and below the 2.3 per cent target for annual growth set by the Economic Council of Canada.

These considerations point out the problems that can and have arisen in the economy. They also emphasize that there is a need for continued improvement in the economy. While the readjustment of the latter half of the year put the economy in the right direction, there is still some way to go before economic growth is re-established at a desirable level. The least that can be said of the experience of the past year is that it has demonstrated that care must be taken to maintain and increase our prosperity. Without this care the economy faces the alternative problems of either inadequate growth or rapidly rising prices.

Total Production

Rising prices did much to bring both Canada's gross national product and Ontario's gross provincial product to levels considerably above the previous year. In Canada, GNP rose to $57,781 million, 10.9 per cent higher than the $52,109 million recorded in 1965; however, real growth – discounting the 4.6 per cent increase in prices – only reached 5.9 per cent. Thus, although the actual growth in GNP was greater than it had been over the past several years, real growth was below that of 1964 and 1965, and only a little above that of 1963.



Ontario's gross provincial product approached $23 billion last year, having reached $20.8 billion the year before. Real growth was more than five per cent. While this real growth, like that of Canada's, was below the level of the past few years, a look at the general trend of the 1960's indicates that real growth in 1966 was just about the same as the average annual growth of the 1960-1966 period.

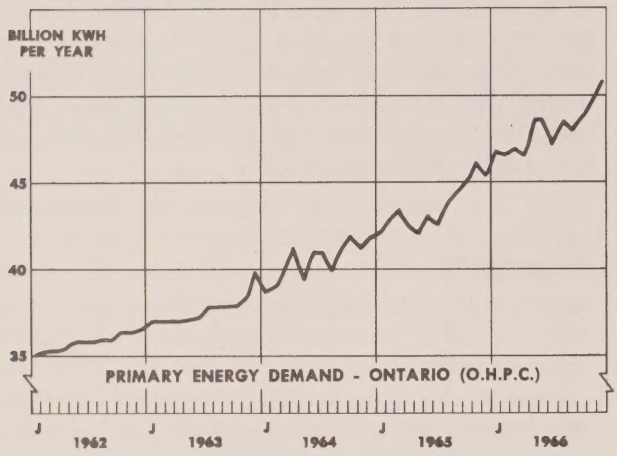
Canada's real non-agricultural production, as measured by the Indexes of Real Domestic Product,[1] increased 6.3 per cent in 1966.

[1]The indexes, which are preliminary for 1966, are based on 1949 = 100. Real domestic product at factor cost (the sum of the unduplicated output of all industries located in Canada) is an elaboration of the supply side of the *National Accounts;* it differs conceptually from constant dollar expenditure on GNP by (1) including income paid to non-residents, (2) excluding income received from non-residents, and (3) excluding "indirect taxes less subsidies". In addition, statistical differences may exist between these two measures.

The growth of goods production surpassed that of service producing industries, the former rising 7.5 per cent and the latter 5.2 per cent.

The largest advance of all industry groups was recorded in electric power and gas utilities, which rose 12.4 per cent. Some indication of a similar gain in Ontario is given in the accompanying chart on primary energy demand in Ontario, based on statistics provided by the Ontario Hydro-Electric Power Commission.

SEASONALLY ADJUSTED



The second highest growth in Canada's industrial groups was a 10.4 per cent increase in the relatively small fishing and trapping category. Transportation, storage and communication, one of the important service-producing categories, was next at just over eight per cent; good gains in the transportation and storage sectors were slightly offset by a somewhat lower rate of growth in the communication sector.

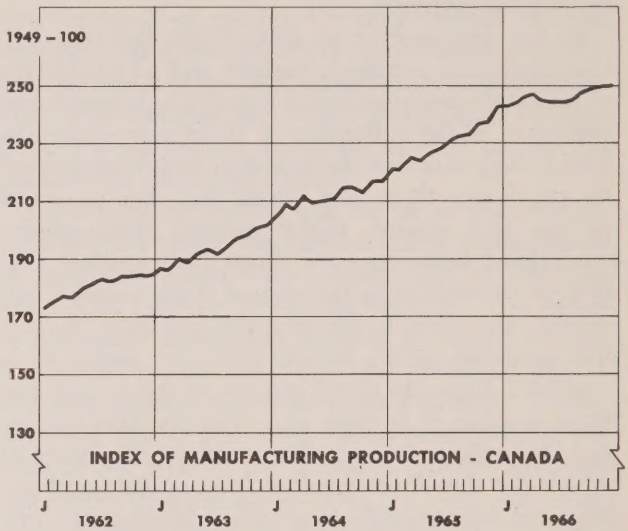
Manufacturing industries advanced 7.3 per cent last year, with equal rates of growth recorded in both durables and non-durables. Construction and mining followed with gains of 7.0 per cent and 6.8 per cent respectively. Forestry and finance, insurance and real estate both recorded increases of over five per cent, while trade and community, recreation, business and personal service followed with over four per cent. Public administration and defense came last with real growth of just less than three per cent.

Though complete statistics on real agricultural production are not yet available, it is believed that the gain ranks with the other fastest-growing industrial groups.

Manufacturing

The significance of manufacturing to Ontario is reflected in the fact that the province accounts for over one half of the nation's manufacturing activity. Data on manufacturing shipments – the one current indicator providing provincial statistics on manufacturing – reveal that last year 52.6 per cent of all manufacturing shipments originated in Ontario. For Ontario the 1966 figure of $19,324.8 million represented an increase of 9.8 per cent from the previous year; for Canada the $36,725.5 million figure represented a gain of 9.3 per cent.

SEASONALLY ADJUSTED



Last year's 7.3 per cent gain in Canada's manufacturing production, as measured by the Index of Manufacturing Production, was not one shared equally by all manufacturing industries. Some, like electrical apparatus and supplies, expanded significantly, while others like non-metallic mineral products were barely able to register a gain.

Durables in particular were hard hit, at least in relation to the performances of recent years. Whereas durables had been expanding more rapidly than non-durables, last year both advanced 7.3 per cent in real terms. For non-durables this meant an improvement over 1965's gain of just over six per cent. But for durables it was a come-down from a gain of 11.5 per cent in 1965. In fact it was the smallest percentage gain since 1961.

One major difference last year was the disappointing growth of the transportation equipment group, particularly motor vehicles and parts. The second quarter slump in auto sales and subsequent production adjustment led to approximate annual gains of only seven per cent in motor vehicles and nine per cent in motor vehicle parts, small gains in comparison to the more than 20 per cent increases of the previous year. These gains were relatively small despite the near tripling of automotive exports, directly attributable to the Canada-United States Automotive Free Trade Agreement. With domestic

sales barely advancing, a large part of the existing demand was met by the reduction of inventories.

In terms of the actual number of motor vehicles produced in Canada, there was an increase of 5.4 per cent, as the number rose from 855,476 units in 1965 to 902,096 units in 1966.

Another group of durables, iron and steel products, suffered as a result of the second quarter decline. The 1965 increase recorded in this group was cut in half in 1966 and was recorded at 5.7 per cent. Steel ingot production in fact declined by 0.5 per cent, to 9,814,065 tons.

The one component of durables which performed well was electrical apparatus and supplies; it increased 15.5 per cent last year. The recorded gains in the remaining durables were small, ranging from just over two per cent for wood products to 4.7 per cent for non-ferrous metal products.

Leading the non-durables (aside from the 10.3 per cent gain in miscellaneous manufacturing) was the chemicals and allied products group, up 9.6 per cent. Other above-average gains were in paper products (nine per cent) and products of petroleum and coal (7.4 per cent). Rubber products industries, enjoying a high demand for their products, including replacement tires, rose 8.9 per cent. Printing, publishing and allied industries equalled the non-durables average at 7.3 per cent. Below average were the gains in foods and beverages (6.1 per cent), tobacco and tobacco products (six per cent), textiles (5.6 per cent), clothing (4.7 per cent) and leather products (1.2 per cent).

Mining

Ontario's mineral production in 1966 fell 2.8 per cent short of the previous year's revised record level of $992.8 million. According to DBS preliminary figures, the total value of mineral production was $964.5 million.

Throughout the rest of Canada the mining industry enjoyed a fairly good year as the value of mineral production rose about 10 per cent. Behind this upward movement was the expansion of iron ore production in Newfoundland, copper and asbestos in Quebec, potash and crude petroleum in Saskatchewan, crude petroleum in Alberta, copper in British Columbia and lead and zinc in the Northwest Territories. The decline in Ontario, as well as in Manitoba and the Yukon, left the whole of Canada with a 6.9 per cent gain over 1965. The value of production rose from $3,745.5 million in 1965 to $4,003.8 million in 1966.

It is significant to note, of course, that the increase in the dollar value of Canada's mining production was due in part to rising prices. Copper, for instance, is one metal whose price increase significantly affected the overall picture. The increase in the value of Canada's copper production represented about one third of the increase in Canada's entire mineral production. Yet while the value of copper production was up $83.0 million or over 20 per cent, the volume of production, expressed in pounds, was up less than two per cent.

One important factor affecting Ontario's mining industry was the strike at the International Nickel Company of Canada in Sudbury. Nickel is a very important part of Ontario's mining industry; except for 1958 and 1959 when uranium production was extremely high, nickel has always been the leading mineral in Ontario. The effect of the strike was to cut the province's nickel production by $25 million – almost as much as the $28 million decline in the whole of Ontario's mining industry.

Five other metals in addition to nickel play a very important part in shaping developments in Ontario in both the metals group and the mining industry as a whole. In 1966 these six metals – nickel, copper, iron ore, gold, uranium and the platinum group – accounted for almost three quarters of all mineral production in the province. Declines in all but one of these were instrumental in bringing the total down

MINERAL PRODUCTION IN ONTARIO

	1965	*1966*	*1966/65 % Change*
	$ Million		
Metals	776.0	747.0	— 3.7
Nickel	316.3	291.2	— 8.0
Copper	161.7	188.0	16.3
Iron Ore	94.2	83.0	—11.9
Gold	73.4	62.1	—15.4
Uranium (U_3O_8)	47.2	40.5	—14.2
Platinum Group	36.1	31.2	—13.5
Non-metallics	23.1	22.6	— 2.1
Salt	15.5	14.3	— 7.5
Fuels	8.9	10.0	12.0
Natural gas	4.9	5.8	18.7
Crude petroleum	4.1	4.3	4.1
Structural Materials	184.7	184.8	0.1
Sand and gravel	63.4	61.9	— 2.3
Cement	50.1	51.3	2.5
Stone	32.3	31.0	— 4.0
Clay products	25.1	27.1	7.8
Total Minerals	992.8	964.5	— 2.8

Source: DBS, *1966 Preliminary Estimates.*

from 1965. The table on page 5 indicates the extent of the decline in each of these metals, as well as in the other major groups of minerals.

Even copper, Ontario's second ranking metal and the one major metal to increase in value, fared poorly last year. The entire 16.3 per cent increase in value was due to significantly higher copper prices. The number of pounds produced actually declined by just over three per cent. Iron ore production dropped almost 12 per cent; at the same time the iron mining industry's capacity to produce iron pellets remained at a little over four million tons a year.

The decline in gold mining last year was a continuation of a trend started in the early 1960's. Since 1960, when the amount of gold mined annually was 2.7 million ounces, production has dropped more than one third, or more than one million ounces. The problem continues to be one of a fixed price for gold in the face of mounting production costs, along with a shortage of experienced underground workers. Several producers shut down because of a lack of economic ore.

Although uranium production continued its sharp decline from the record high of almost $270 million in 1959, there were hopeful signs of a revival in the near future. One such sign was an Ontario Hydro contract awarded to Rio Algom Mines Limited and Eldorado Mining and Refining Limited for delivery of up to 1,100 tons of uranium oxide up to 1973 and a further 5,500 tons up to 1980; another was the agreement between Rio Algom and the United Kingdom Atomic Energy Commission for the sale of two million pounds of uranium oxide a year from 1972 to 1980.

The last major metal, the platinum group, is derived from the copper refining process. A lower volume of production of the latter metal was therefore largely responsible for the decline in platinum production.

Aside from the 3.7 per cent decline in Ontario's metal production, there was a decline of 21 per cent in non-metallics and virtually no change in structural materials. The one category which did rise impressively was fuels, the smallest of the four basic groups. The increase in natural gas production was the main contributor to its 12 per cent increase in value.

Agriculture

1966 was a productive year for Ontario farmers as total farm cash receipts again passed the billion dollar mark, rising to $1,204.5 million.

The value of field crop production in the province rose to $602 million in the past year, an increase of 8.9 per cent over the 1965 total of $553 million. This improvement reflected generally favourable conditions and a slight increase in the acreage under field crops – a total of 7.8 million acres.

However drought conditions in July did affect crops in some areas of Ontario, principally in the Niagara Region, the Georgian Bay Region, and in Prince Edward and Frontenac counties.

Winter wheat, soybeans, and shelled corn produced record yields per acre during the past season.

Total production of the four principal feed grains in Ontario (oats, barley, mixed grains, and shelled corn) is estimated at 184.6 million bushels in 1966, down 9.6 per cent from 1965. This decrease was due to a large reduction in acreage under oats and mixed grains and a lower yield per acre for each crop except shelled corn.

An excellent crop of good quality hay was harvested in Ontario last year. Total production is estimated at 7,219,000 tons, an increase of 32 per cent over the unusually poor 1965 season.

The soybean crop was the largest in Ontario's history, both in yield per acre (32.3 bushels estimated average) and in total production (estimated at 8,656,000 bushels).

A sharp increase in the acreage under tobacco yielded a total production of about 215 million pounds of flue-cured tobacco, 38 per cent more than the previous year. However the yield was somewhat lower than expected due to an early frost. Low inventories and strong demand for cigarettes in Canada and abroad produced a high average selling price of 71.36 cents per pound for the 1966 flue-cured tobacco crop.

Looking at livestock, graded cattle sales at public stock yards fell about seven per cent to 495,525 in 1966 from 529,534 the previous year. However cattle prices were higher; average price per hundredweight for choice steers rose from $25.20 in 1965 to $27.05 in 1966.

Hog sales at public stock yards increased from 434,553 in 1965 to 436,050 in 1966. Average prices for grade A dressed hogs rose slightly from $33.40 per hundredweight in 1965 to $33.90 in 1966.

Total milk production in Ontario during 1966 was about 6.8 billion pounds, with a cash value of $248 million.

In the 1966 dairy year, agreement was reached between the Ministers of Agriculture for Canada, Ontario and Quebec with respect to the federal and provincial price support and subsidization programs for manufacturing milk. For the remainder of that

dairy support year, Ontario was to institute a provincial subsidy on the basis of 25 cents per hundred pounds for manufacturing milk. Quebec was to continue its existing subsidy policy. The Ministers agreed that the Canadian Dairy Commission should assume complete responsibility for support and subsidization of manufacturing milk at the beginning of the next dairy year on April 1, 1967. The support program to be established at that time was to include an increase in price of at least 25 cents per hundredweight, basis 3.5 per cent milk fat. It was agreed that the provinces of Ontario and Quebec would withdraw subsidies as of March 31, 1967; and that it was essential that provincial mechanisms be in effect that would assure that the benefits of the program accrue to the producers.

Ontario produced 103.4 million pounds of butter during 1966, valued at $63,395,000. Cheddar cheese production reached 89.3 million pounds and was valued at $30,781,000.

Adverse weather conditions affected fruit and vegetable crops in many areas in Ontario during the past year.

Of the nine principal fruit crops grown in the province five suffered declines in production in 1966 while four – apples, cherries, peaches, and pears – showed an increase of eight per cent, 21 per cent, seven per cent and 15 per cent respectively over 1965.

Vegetable crops suffered from a lack of moisture in most areas of the province with the exception of Essex and Kent counties.

Asparagus production in 1966 is estimated at 3,869,000 pounds, down seven per cent from 1965. Tomatoes for fresh market were down 12 per cent to 1,260,000 bushels. Planted acreage in onions decreased to 4,600 acres, while production dropped 34 per cent to an estimated 61,000 tons in 1966.

Forest-Based Industries

Ontario's pulp and paper industry continued a high level of production, occupying fourth rank among the manufacturing industries. In 1966 the woodcut increased by an estimated 10 per cent compared with 1965 and the volume of pulp produced rose by an estimated eight per cent. The volume of paper and paperboard produced rose an estimated 10 per cent; sawmills also increased their output by 10 per cent.

In the newsprint industry installed capacity passed the two million ton mark. Output of newsprint is estimated to have been 10 per cent larger than in 1965. Prices of paper, newsprint and lumber rose last year.

The selling value of factory shipments originating in the wood industries (excluding furniture) was more than $200 million. The forest-based industries, employing about 41,000 in the production of pulp, paper and paper products and 36,000 in the wood industries, paid out salaries and wages in excess of $300 million.

While no new mills were established in the pulp and paper industry in 1966, major expansions were completed or were under way in the existing mills. These expansions were particularly beneficial because they took place in the Kraft paper sector of the industry; the production of Kraft paper makes possible a wider utilization of tree species.

The total value of shipments in the pulp and paper industry is estimated to have reached the $650 million mark.

Capital Investment

Capital investment was one of the prime moving forces in the Canadian economy last year, outpacing the growth of GNP. Public and private investment reached $14,897 million, an increase of 15.7 per cent from the $12,865 million of 1965. Business gross fixed capital formation, making up over 80 per cent of this investment, increased 14.7 per cent, almost the same rate. This represented the combined effect of a three per cent decline in residential construction and increases of 19.6 per cent and 16.0 per cent in new non-residential construction and new machinery and equipment respectively.

As a percentage of GNP, business capital investment continued to rise through the first half of 1966. Expo and other projects undertaken across the nation played a part in contributing to this high rate of growth. However the measures introduced by the federal government to curb what were deemed inflationary pressures soon affected the growth of this investment. The first measures to delay capital outlays came in the March budget with the introduction of a five per cent refundable tax on corporate cash profits above $30,000, temporarily reduced business depreciation allowances on most building and machinery items, and a delay in a proposed five per cent cut in the federal sales tax on production machinery. High borrowing costs as well as high construction costs were further disincentives. The effects of these disincentives became evident in the third quarter of the year. Business fixed capital investment (seasonally adjusted at annual rates) declined; as a percentage of GNP it dropped from 21.4 per cent in the second quarter to 20.7 per cent in the third, due to declines in both residential and non-residential construction.

NEW PRIVATE AND PUBLIC INVESTMENT IN ONTARIO

	Construction			Machinery & Equipment			Total		
	1965	1966	1966/65 % Change	1965	1966	1966/65 % Change	1965	1966	1966/65 % Change
	$ Million			$ Million			$ Million		
1. **Primary Industries and Construction Industry**	105.5	179.3	70.0	254.0	304.3	19.8	359.5	483.6	34.5
2. **Manufacturing**	280.3	387.5	38.2	901.6	975.4	8.2	1,181.9	1,362.9	15.3
Food and Beverages	21.6	28.9	33.8	64.1	63.3	−1.2	85.7	92.2	7.6
Rubber	2.9	5.5	89.7	15.0	19.9	32.7	17.9	25.4	41.9
Textile	18.2	18.3	0.5	46.6	39.6	−15.0	64.8	57.9	−10.6
Clothing and Knitting Mills	1.1	2.7	145.5	4.9	6.1	24.5	6.0	8.8	46.7
Wood	5.2	4.1	−21.2	9.0	8.7	−3.3	14.2	12.8	−9.9
Furniture and Fixtures	4.2	6.9	64.3	3.6	6.0	66.7	7.8	12.9	65.4
Paper and Allied Industries	24.4	19.2	−21.3	83.9	74.4	−11.3	108.3	93.6	−13.6
Printing, Publishing and Allied Industries	6.1	6.8	11.5	15.6	17.1	9.6	21.7	23.9	10.1
Primary Metal	27.3	41.5	52.0	128.7	152.9	18.8	156.0	194.4	24.6
Metal Fabricating	24.1	22.3	−7.5	52.7	61.5	16.7	76.8	83.8	9.1
Machinery	9.8	17.4	77.6	25.2	25.8	2.4	35.0	43.2	23.4
Transportation Equipment	44.8	76.7	71.2	131.4	136.7	4.0	176.2	213.4	21.1
Electrical Products	11.9	24.2	103.4	28.8	47.6	65.3	40.7	71.8	76.4
Non-metallic Mineral Products	10.5	26.0	147.6	28.6	54.8	91.6	39.1	80.8	106.6
Petroleum and Coal Products	12.6	36.0	185.7	3.1	2.7	−12.9	15.7	38.7	146.5
Chemicals and Chemical Products	44.0	36.5	−17.0	111.6	97.7	−12.5	155.6	134.2	−13.8
Miscellaneous	9.2	10.8	17.4	19.2	22.3	16.1	28.4	33.1	16.5
Other Manufacturing	2.4	3.7	54.2	129.6	138.3	6.7	132.0	142.0	7.6
3. **Utilities**	310.1	413.1	33.2	379.8	390.9	2.9	689.9	804.0	16.5
4. **Trade, Finance and Commercial Services**	248.0	287.5	15.9	212.2	250.4	18.0	460.2	537.9	16.9
5. **Housing**	802.6	875.5	9.1	—	—	—	802.6	875.5	9.1
6. **Institutional Services and Government Departments**	786.0	929.8	18.3	98.2	121.2	23.4	884.2	1,051.0	18.9
TOTAL PRIVATE AND PUBLIC INVESTMENT IN ONTARIO	2,532.5	3,072.7	21.3	1,845.8	2,042.2	10.6	4,378.3	5,114.9	16.8

Note: 1966 expenditures are preliminary.

Source: DBS, *Private and Public Investment in Canada, Outlook 1967* (61-205).

One added measure coming at the end of the year was the addition of one per cent to the federal sales tax (production machinery and building materials excepted).

Ontario's performance in public and private investment outshone that of the rest of the nation last year. Total investment in the province increased 16.8 per cent as opposed to just over 15 per cent elsewhere in Canada. While Ontario did not match the 20.8 per cent increase in machinery and equipment, it did outstrip the rest of the nation 21.3 per cent to 12.4 per cent in construction investment. The above table shows the size and growth of investment in Ontario last year.

Total investment in 1966 was $5,114.9 million, 16.8 per cent higher than in 1965. This total was made up of $3,072.7 million for construction and $2,042.2 million for machinery and equipment.

The greatest growth took place in the combined primary and construction industries. Certain larger manufacturing industries expanded investment sharply as well: printing, publishing and allied industries, transportation industries, electrical products, and non-metallic mineral products. Three in particular – textiles, paper and allied industries and chemicals and chemical products – actually cut expenditures last year. The net result was an overall increase of 15.3 per cent in manufacturing investment, made up of a 38.2 per cent increase in construction and an 8.2 per cent rise in investment in machinery and equipment.

Construction

Construction in Ontario was somewhat mixed in 1966, as residential and non-residential construction followed somewhat different paths. In terms of

activity initiated, residential construction showed a pronounced decline while non-residential construction climbed upward. The value of residential building permits issued (both new and repair construction) was down 5.8 per cent while permits for non-residential construction rose 19.8 per cent. Total permits increased to $1,729.7 million, a rise of 7.9 per cent.

VALUE OF BUILDING PERMITS ISSUED IN ONTARIO

	1965	*1966*	*1966/65 % Change*
	$ Million		
Residential Construction	772.6	727.9	—5.8
New residential	746.0	697.7	—6.5
Repair residential	26.6	30.2	13.6
Non-Residential Construction	888.6	1,064.8	19.8
Industrial	212.3	281.5	32.6
Commercial	275.8	300.1	8.8
Institutional and government	400.6	483.2	20.6
Total Construction	1,661.2	1,792.7	7.9

Note: Columns may not add due to rounding.
Source: DBS, *Building Permits* (64-001).

The sharp decline in residential construction — particularly in apartments — actually began in the second half of 1965 and continued on throughout most of 1966. Several factors were important. For one, the institutional lenders substantially reduced their mortgage lending activities. Behind this was an increase in the competitive demand for investment funds for non-housing purposes, a result of the tighter credit conditions. This made the mortgage market less attractive for investors. The prime rate on conventional mortgages did rise from 7.5 per cent to as high as 8.0 per cent, but this did not noticeably alter the pattern set. The maximum NHA rate was also raised, first from 6¼ per cent to 6¾ per cent in January, and then to 7¼ per cent in November, but the mortgage market remained a somewhat ineffective competitor to other forms of investment. Aside from the reduced attractiveness of investment in mortgages, a reduced level of savings going to the customary mortgage lending institutions also added to the difficulties. Lending institutions — including trust, loan and insurance companies — generally cut mortgage loan approvals by about one third. The discontinuation of the Winter House-Building Incentive Program for 1966-67, announced earlier in the year, was quite conceivably another contributor to the reduced rate of growth in residential construction.

In the hope of spurring residential construction by maintaining a competitive interest rate on home ownership and rental housing loans, an Order-in-Council was passed in November, 1966, linking these rates to the changing yields on long-term Government of Canada bonds. The rate was to be 1½ per cent above that applicable to federal securities. The move to a 7¼ per cent rate that month was arrived at by this method. Adjustments afterward were to be made following a quarterly review.

Statistics show just how sharp the drop in residential construction activity actually was. Dwelling unit starts all across Ontario numbered 52,355 units; in urban centres of 5,000 population and over they numbered 45,359 — a drop of 24.2 per cent from 1965.[2]

As can be seen from the table on page 10, the situation in Toronto was especially bad, with a sharp decline experienced in the past year. Representing almost one-half of the provincial total, Toronto's figures have had a pronounced impact on the whole of Ontario.

While the year as a whole presented a bleak picture, there actually were a few months in which the number of starts in Ontario exceeded the figure for 1965. The significant case was January, when dwelling unit starts in Toronto soared 70 per cent higher than 12 months earlier; this combined with a smaller increase throughout other centres to produce an overall increase of almost 43 per cent. Toronto experienced another good month in March with apartment and row housing starts rising markedly. However the poor showing elsewhere in the province left the total down some 15 per cent. There was a very mild improvement in September and October — at least for centres outside of Toronto — as starts began to move toward their 1965 monthly levels. In October the total was actually one per cent above the level of 12 months earlier. Directly responsible for this was the early introduction of a CHMC direct lending program (in recent years similar programs had been started a month or so later in the year). Yet these few signs of improvement did little to alter the rather sharp overall decline indicated by the full year figures.

[2]Although the number of dwelling unit *completions* in Ontario in 1966 — 61,196 units — was more than 20 per cent higher than the year before, this can be considered partially the result of the high level of construction activity initiated in 1965. The reduced number of *starts* has left the number of dwelling units under construction at the end of 1966 about one third lower than one year earlier.

DWELLING STARTS IN SELECTED ONTARIO CENTRES

Urban Area	*1964*	*1965*	*1966*	*1965/64*	*1966/65*
	Number			*% Change*	
Toronto	28,810	32,506	22,155	12.8	—31.8
Ottawa-Hull	5,711	5,051	4,436	—11.6	—12.2
Hamilton	5,670	4,519	4,201	—20.3	—7.0
Kitchener	3,173	2,820	2,432	—11.1	—13.8
London	2,668	2,466	1,936	—7.6	—21.5
Windsor	1,125	1,523	1,365	35.4	—10.4
St. Catharines	1,481	1,308	1,060	—11.7	—19.0
Oshawa	1,591	2,164	991	36.6	—54.2
Sarnia	484	565	693	16.7	22.7
Kingston	785	1,203	651	53.2	—45.9
Guelph	612	586	505	—4.2	—13.8
Ft. William-Pt. Arthur	534	525	485	—1.7	—7.6
Brantford	575	613	431	6.6	—29.7
Sault Ste. Marie	616	325	414	—47.2	27.4
Niagara Falls	313	290	292	—7.3	0.7
Sudbury	271	309	394	14.0	27.5
Peterborough	390	298	305	—23.6	2.3
Welland	177	194	301	9.6	55.2
Timmins	82	111	69	35.4	—37.8
Total Ontario Centres of 5,000 Population and Over	57,446	59,829	45,359	4.1	—24.2

Source: CMHC, *Canadian Housing Statistics.*

Foreign Trade

Trade development during 1966 provided one of the brightest pictures in the Canadian economy. While imports as well as exports rose substantially, exports held a slight edge.

Exports and imports of goods and services[3] rose 15.4 per cent and 13.6 per cent respectively from 1965 to 1966. Exports rose from $11,156 million to $12,869 million, imports from $12,297 million to $13,970 million.

Canada's export balance on total *merchandise* trade rose from $133.5 million in 1965 to $459.0 million last year. This is derived from the $10,325.8 million figure for total exports (including re-exports) and the $9,866.8 million recorded for total imports.

On a country basis Canada's import balance with the United States declined, almost entirely a direct result of an improved balance in automotive trade.

[3]As presented in the *National Accounts.*

CANADIAN DOMESTIC EXPORTS, 1963 – 1966

	1963	*1964*	*1965*	*1966*	*64/63*	*65/64*	*66/65*
	$ Million				*% Change*		
By Commodity Group:							
Live Animals	42.0	34.5	79.1	78.0	—17.8	129.3	— 1.4
Food, feed, beverages and tobacco	1,419.9	1,805.9	1,629.8	1,888.6	27.2	— 9.7	15.9
Inedible crude materials	1,426.0	1,616.1	1,763.7	1,947.4	13.3	9.1	10.4
Inedible fabricated materials	3,106.9	3,502.5	3,728.8	4,012.1	12.7	6.5	7.6
Inedible end products	779.1	1,109.0	1,300.1	2,119.3	42.3	17.2	63.0
Special transactions – trade	24.7	26.2	23.5	25.3	5.9	—10.2	7.7
Total	6,798.5	8,094.2	8,525.1	10,070.8	19.1	5.3	18.1
By Geographic Group:							
United States	3,766.4	4,271.1	4,840.5	6,027.7	13.4	13.3	24.5
United Kingdom	1,006.8	1,199.8	1,174.3	1,122.6	19.2	— 2.1	— 4.4
All others	2,025.3	2,623.4	2,510.3	2,920.5	29.5	— 4.3	16.3

Source: DBS, *Summary of Exports* (65-002).

The excess of imports over exports declined from $1,012.1 million in 1965 to $906.3 million last year. The United Kingdom's persistent economic problems led it to reduce its purchases from Canada last year, thereby reducing Canada's favourable balance of trade with that country. The export balance fell from $566.3 million in 1965 to $487.1 million last year. Large wheat sales to communist countries played an important role in improving Canada's export balance with the other countries of the world. From 1965 to 1966, this balance climbed from $579.3 million to $872.9 million, an increase of 50 per cent.

Domestic exports reached $10,070.8 million last year, up 18.1 per cent from 1965's $8,525.1 million. Relatively buoyant conditions in other parts of the world were instrumental in this impressive growth.

The area of greatest advancement proved to be non-food end products, or finished goods. This group of exports, which has increased its share of total exports from less than 12 per cent in 1963 to 21 per cent in 1966, outshone all other groups last year, rising by a spectacular 63 per cent. Most of this fillip was provided by the 179 per cent expansion of motor vehicle and parts exports, almost entirely a result of the Canada-United States Automotive Free Trade Agreement.

TOTAL MOTOR VEHICLE AND PARTS EXPORTS

	1965	*1966*	*1966/65 % Change*
	$ Million		
Passenger automobiles and chassis	148.6	429.6	189.0
Other motor vehicles	34.5	173.3	401.8
Motor vehicle engines and parts	44.4	137.9	210.8
Motor vehicle parts, except engine	128.4	252.9	96.9
Total:	356.0	993.6	179.1

Source: DBS, *Summary of Exports* (65-002).

Continued economic expansion in the United States and the needs created by the United States military involvements accounted for a lot of Canada's growing exports, just as it has in the past. The importance of the U.S. economy to Canada's exports is apparent from the high percentage of exports going to that country: in 1966 Canada exported to the United States over three quarters of its non-food end products, almost 70 per cent of its fabricated materials and almost 60 per cent of its crude materials.

With over one half of Canada's manufacturing production originating in Ontario, it is easy to see the particular significance to Ontario of rapidly rising exports of manufactured goods. What may be less obvious — but nevertheless valid — is the importance to Ontario of exports such as wheat. While wheat exports come mainly from the Prairies the income it provides is extremely important to Ontario; for with this income individuals will purchase additional goods such as automobiles, agricultural implements, etc. — goods produced mainly in Ontario.

With this in mind it is not difficult to picture the benefit to Ontario — and to all of Canada — of the mounting value of wheat and wheat flour exports. In 1966 these exports ran to $1,143.9 million, a rise of 26 per cent from the previous year (and even slightly higher than the record $1,123.8 million recorded in 1964). As in 1964 the large increase was accounted for by the purchases made by communist countries.

Canadian imports last year almost matched the growth of exports, rising 14.3 per cent to a level of $9,866.8 million. Aside from the increases needed to accommodate the rapid economic growth in this country, the bulk of the gains were directly attributable to the Canada-United States Automotive Free Trade Agreement. As a result of this, Canada's total imports of motor vehicles and parts rose by 40.5 per cent. Such a high rate of increase might at first appear distressing, but it is not so when compared with the 179.1 per cent increase in automotive exports.

As might be expected, by far the major portion of the automotive imports came from the United States. This produced a level of imports from the United States 18 per cent higher than the previous year; it also increased the share of total imports coming from the U.S. to over 72 per cent. Of this U.S. total of $7,135.9 million, over three fifths were finished manufactured goods. Canada also increased its imports from the United Kingdom, but by the rather small figure of 4.1 per cent.

Imports from all other countries advanced approximately six per cent.

Finance

Inflationary pressures exerted a dominant influence on the Canadian economy in 1966. The fundamental character of this inflation, however, changed considerably over the course of the year.

At the start of the year the economy was straining its productive capacities and operating near a state of full employment in order to sustain growth. This

condition coupled with demand pressures resulted in an inflationary situation. By mid-year public concern over excessive price pressures was rapidly mounting. In response the federal government initiated measures to restrain the pressures of excessive demand.

Initially, steps were taken to restrain credit conditions. As a consequence interest rates rose and bond market prices declined until the end of August. Indications that the federal government's policy was having its desired effect first appeared in July as business spending began to slow down. However, during August, interest rates rose again, due largely to wage demand pressures and tight money conditions in the United States, and to the concern that, unlike spending in the private sector, government spending was not being reduced. The rise of interest rates to almost crisis levels was based on an emotional response rather than the functions of supply and demand: when the government clarified its responsibilities and position, the trend of rising interest rates was altered. This the government achieved by assuming a very firm position with respect to striking railway men, and by announcing that government capital spending was to be immediately cut back and that the finance department would present, in the near future, a mini-budget calling for increased taxes. The rate at which interest rates then eased was governed by an unusually large volume of new long-term bond financings. With this degree of borrowing activity interest rates might well have risen above their August highs.

However, concurrent with this borrowing was the support rendered to the market by (1) the Bank of Canada stabilizing purchases in the open bond market and (2) the Federal Reserve Board in the U.S. assuming an easier stance on bank lending.

The new bond financings carried out by the Government of Canada last year also did much to confine the rate at which capital was to be spent. The government's objective of extending the term of the federal debt was in evidence in the first Canada refunding issue of the year and also in each of its three subsequent borrowings.

New Canadian bond financing for 1966 totalled almost $6,202 million – an increase of 31.5 per cent over the previous year's borrowings of $4,715 million. This 1966 total of borrowings, however, was influenced by the exceptionally large sale of the 1966 series of Canada Savings Bonds and by the heavy corporate borrowings in the first few months of 1966. These borrowings in New York had been deferred from late 1965. Of the $1,317 million financed by corporations in 1966, no less than $206 million or 15.6 per cent was issued in January, while the combined January-February borrowings at $349 million represented 26.5 per cent of the year's total. The sale of Canada Savings Bonds, considered part of total bond financings, put this volume further out of character since 1966 sales of $2.0 billion (as of November 30th) represented a significant increase from the preceding year's total sales of only $683 million.

Although credit conditions were extremely tight in the United States last year, the marketing of the year's total new borrowings was relatively smooth. Total 1966 borrowings of US $829 million represented a 12.8 per cent decline in value from the U.S. $951 million borrowed during 1965. Before October, Canadian borrowings in the U.S. capital market were well above their value of the previous year. However, at this point the extremely tight credit conditions placed borrowing costs in the U.S. above those in the domestic market.

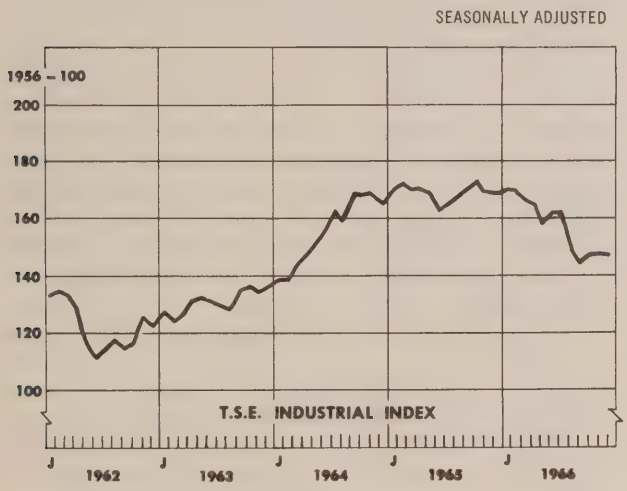
Canada's money supply increased from $19,947 million to $21,373 million in 1966, or by 7.1 per cent, compared with a 10.9 per cent increase in GNP. These factors along with reduced capital inflows from the U.S. and the federal government's pursuit of credit restraints could not on its own be responsible for the tight money condition which prevailed in Canada during late summer and the final quarter of the year. This phenomenon should, perhaps, be attributed to emotional factors: that is, public concern and caution resulting in a marked reduction in the rate at which money changed hands.

A specific event which could have dampened investor confidence was the financial failure of the Prudential Finance Company. Following upon the disconcerting implications of the previous year's collapse of both Atlantic Acceptance and British Mortgage and Trust Company, this no doubt served to further unsettle the already compromised reputation of Canadian financial institutions. Efforts were being made, however, by both the federal and provincial governments to safeguard the savings of investors. The Canadian Securities legislation is one example. The Ontario government pioneered in this field with its legislation already passed and proclaimed in early 1967. In addition, financial affairs were to be regulated through a new bank act, depositors' insurance, and revised legislation covering consumer credit and the Corporation Act.

If these precautions had been introduced in 1966, they might well have re-established investors' confidence and averted to some degree the downward price movements on the stock market. The sell-off

in the summer and early fall was mainly a result of the loss of investors' confidence. With interest rates having risen in response to credit conditions, profits under pressure by inflationary factors, and industry revising its capital expenditure programs to gear down to a more realistic rate of growth, equity prices naturally came under considerable selling pressures. The large institutional investor was the first to transfer substantial portions of equity assets into fixed income securities. The small investors followed, most of them having already suffered paper losses. The customary year-end rally involving extensive institutional buying never took place in 1966. Its absence confirmed that institutional investors had assumed a large cash position in order to report a high liquidity level in their year-end statements. With the large market sell-off during the year, this high liquidity level would thus indicate prudent investment management.

Tight money conditions exerted a heavy influence on the performances of Canadian stock exchanges in 1966. With general business activity showing intermittent signs of weakness, prospects were that corporate profit margins would come under pressure. This, combined with the fact that borrowers were faced with extremely high prices for borrowed funds, led to a 12.9 per cent decline in the Toronto Stock Exchange Industrial Index last year.



This net loss in equity values thus halted a general annual advance dating back more than three years. (However, 1965's appreciation was a mere 1.6 per cent, compared with the 16.4 per cent and 20.7 per cent gains recorded in 1963 and 1964 respectively.)

Montreal's volume declined significantly in 1966, while increased purchases of U.S. securities raised the volume of trading in the Calgary, Alberta and Vancouver markets.

The total volume of equity shares traded on all exchanges fell to about 1.66 billion shares, a decline of 2.4 per cent from 1965's 1.7 billion, and well below 1964's record 1.9 billion shares. The value was recorded at $4.25 billion. No less than 58.8 per cent of this volume was traded on the Toronto Stock Exchange. The TSE volume increased four per cent to 971.3 million shares while share values dropped nine per cent to $2.88 billion.

Even with the high investor interest in new West Coast speculative securities traded in Vancouver, Canadians nevertheless substantially increased their net purchases of U.S. securities from $55 million in all of 1965 to more than $194 million in the first 11 months of 1966.

Employment

Ontario's labour force rose to a record level of 2,719,000 last year, a rise of 4.0 per cent from 1965's 2,614,000. This growth can be attributed to several factors: a high level of immigration to Ontario both from other Canadian provinces and from other countries (108,000 immigrants from other countries – except for 1957 the highest figures of the past half century – named Ontario as their destination); the entry into the labour force of the children of the post-war baby boom; and the increasing participation of women in the labour force. Such growth in Ontario, as well as in some other provinces, has earned for Canada the distinction of having the most rapidly growing labour force of any developed capitalist country.

With the Ontario economy still operating at near capacity in many areas, the overall employment picture once again was impressive. In fact many employers had positions waiting to be filled, but faced a shortage of individuals to fill them. The number of employed individuals was 2,650,000, a jump of 102,000 or 4.0 per cent from 1965. The resulting unemployment rate was 2.5 per cent, the same low rate as in 1965 and the lowest in 10 years.

Though employment was generally good, there was a notable deterioration for several months in the summer. The effects of economic cooling and a relatively larger-than-usual number of industrial disputes combined to cut employment in various industries, both in Ontario and Canada as a whole.

The number of strikes in Ontario increased last year, and the number of man-days lost rose to approximately 1.43 million in 1966 from 1.34 million in 1965. While this represented an increase over 1965, in terms of Ontario's share of the national total there was an actual decline. In 1965 over one-half of

the man-days of work lost were in Ontario; in 1966 it was only 28 per cent.

A strike in the truck transportation industry lasted from the beginning of the year until the end of April. In July, a peak month in labour disputes, strike action was taken in the nickel mining industry and in meat packing, followed in August by a strike of short duration in metal fabricating. The nickel mining strike was resolved in August, the meat packing strike in October. Aside from these there were also nation-wide strikes in different industries throughout the year, including rail and air transportation.

The expansion of employment from 1965 to 1966, as reported by DBS, varied somewhat from industry to industry:

ESTIMATES OF EMPLOYEES BY INDUSTRY, ONTARIO, 1965 AND 1966[1]

	1965	*1966*	*1966/65 % Change*
	000's		
Forestry	12.5	12.5	—
Mines, quarries and oil wells	33.7	33.2	—1.5
Manufacturing	760.1	807.0	6.2
Non durables	339.8	357.0	5.1
Durables	420.2	450.0	7.1
Construction	127.1	136.3	7.2
Transportation, communication and other utilities	205.5	209.7	2.0
Trade	338.7	357.0	5.4
Finance, insurance and real estate	101.9	105.6	3.6
Service	198.2	215.2	8.6
Total (specified industries)	1,777.9	1,876.5	5.5

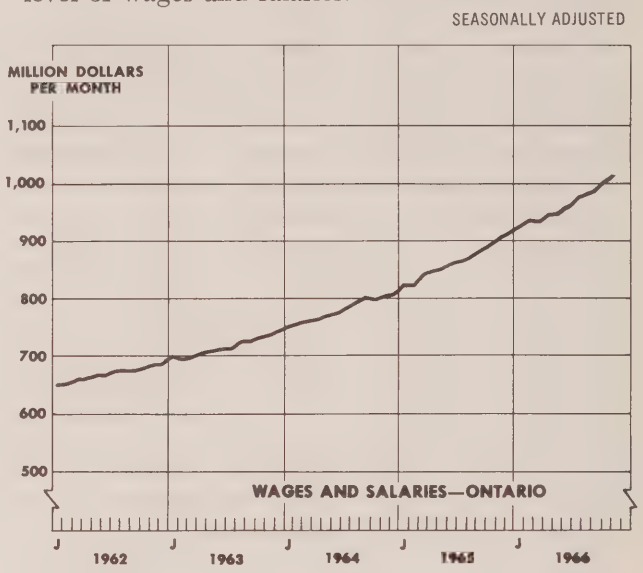
[1]1966 statistics are preliminary.

Source: DBS, *Estimate of Employees by Province and Industry* (72-008).

As can be seen from the table, it was service industry employment which expanded most; this includes health services (except hospitals), motion picture and recreational services, services to business management, personal services (except domestic service) and miscellaneous services. Substantial gains were also recorded in construction and manufacturing. Mines, quarrying and oil wells, suffering from industrial disputes, showed a decline of 1.5 per cent in the annual average.

Income

The expansion of the Canadian economy last year was accompanied by record income levels. Excluding supplementary labour income, Canada's total wages and salaries rose to $28,121 million from $25,061 million in 1965. Sharply increased prices as well as labour's strong bargaining position (under relatively tight labour market conditions) worked in labour's favour last year; as a result there were a significant number of relatively large wage settlements throughout the year contributing to the high level of wages and salaries.



Ontario shared in this expansion, accounting for over 41 per cent of the national total of wages and salaries. Growth from 1965 to 1966 was recorded at 11.8 per cent, as wages and salaries climbed from $10,406 million to $11,633 million. In manufacturing industries, Ontario's share was even higher, at 51.9 per cent; the expansion of wages and salaries here was just over 11 per cent, from $3,771 million to $4,195 million.

Available data on average weekly wages and salaries in Ontario show a general increase of approximately 5.3 per cent across the province.

The construction industry was one of the leaders throughout the year, both in growth over the one-year period and in actual average weekly wage and salary[4] levels. Its peak of $134 was reached in the month of October. The mining industry averaged about $115 in 1966, with its peak of $127 coming at the end of the year. Others with relatively high levels were durables manufacturing and forestry. Average weekly wages and salaries in Ontario's

[4]For a detailed explanation of the concepts and methodology used in arriving at average weekly wages and salaries see DBS, *Employment and Average Weekly Wages and Salaries* (72-002).

GROWTH OF AVERAGE WEEKLY WAGES AND SALARIES IN ONTARIO'S INDUSTRIAL GROUPS, 1966/65

	1966/65 % *Change*[1]
Forestry	8.6
Mining, including milling	6.7
Manufacturing	4.7
Durables	3.6
Non-durables	6.1
Construction	9.2
Transportation, communication and other utilities	4.7
Trade	5.9
Finance, insurance and real estate	5.5
Service	5.4
Industrial Composite	5.3

[1]Approximations based on unweighted averages of available monthly data.

Source: Derived from DBS, *Employment and Average Weekly Wages and Salaries* (72-002).

industrial composite were approximately $100, one of the highest figures of all the provinces. The high figure of more than $102 was reached in October.

Per capita personal income in the province approached $2,500 in 1966, up substantially from $2,296 in 1965.

PERCENTAGE CHANGE IN IMPLICIT PRICE INDEXES
(Based on 1957 = 100)

	1964/63	*1965/64*	*1966/65*
Personal expenditure	1.5	1.9	3.5
Non-durable goods	1.6	2.0	4.1
Durable goods	—1.0	—0.4	0.0
Total goods	1.0	1.4	3.3
of which:			
food	1.5	2.8	6.1
non-food goods	0.9	0.8	1.8
Services excluding net expenditure abroad	2.4	2.8	3.9
Government expenditure	3.2	4.1	6.9
Business gross fixed capital formation	4.4	4.3	3.8
New residential construction	5.5	4.9	5.0
New non-residential construction	4.4	6.1	5.3
New machinery and equipment	3.8	2.6	2.1
Exports	1.9	1.2	3.3
Imports	1.2	0.4	1.8
Gross National Expenditure	2.6	2.8	4.6

Source: DBS, *National Accounts* (13-001).

Prices

Rising prices were the object of a great deal of attention last year. Unlike recent years, last year's 4.6 per cent increase in the Gross National Expenditure implicit price indexes[5] was generally viewed as excessive. From 1962 to 1965, for example, this annual increase ranged from 1.5 per cent to 2.8 per cent.

Almost all of the major implicit price indexes showed greater increases than the year before. Business gross fixed capital formation was the one exception, dropping from a 4.3 per cent increase in 1965 to a 3.8 per cent increase last year. The rate of growth in that price index slackened somewhat during the second and third quarters of 1966 as investment in residential construction and new machinery and equipment dropped off; this was followed by a marked revival in the last quarter.

As can be seen from the accompanying table, some increases were quite pronounced. Government expenditure, for one, rose 6.9 per cent, giving some indication of the price pressures created by the rapid expansion of government spending. And the export price index, while not increasing as much in percentage terms, was significantly ahead of the rise in import prices.

But the area of greatest concern was that of personal expenditure and services. In services, notable increases appeared in rents and other household services. The increase in the implicit price index of personal expenditure climbed almost twice as much as in 1965, but this was the combined effect of several different developments. The one which attracted most attention — enough to lead housewives to actively protest — was the rise in the price of food. Some indication of this is the fact that while all non-food goods rose 1.8 per cent last year, food

[5]These indexes reflect the aggregate price trends of all goods and services entered in the calculation of GNP and GNE in the *National Accounts*. They are percentage ratios expressing the relationship at any given time between GNP estimates calculated in current and constant dollars, the difference between them being the implied measure of price change from the base year. Each component measured is weighted according to its relative importance in terms of expenditures, thereby continuously compounding straight price changes with changing expenditure patterns.

prices soared 6.1 per cent. This one important development was instrumental in shaping the overall increase in the index for personal expenditure. As a matter of fact, while non-durables (which includes food) was up over four per cent, the price of durable goods actually stood still.

While a lot of attention was directed toward the general rise in food prices, there appears to have been too little awareness that a good part of the food price increase was due to individual factors — factors which unfortunately coincided in 1966. Some of these were the tight supply situation associated with the hog cycle, several poor vegetable crops, and the prolonged strike at a major meat packing plant.

Turning to the more conventional Consumer Price Index for Canada[6] (based on 1949 = 100), the importance of the rise in food is brought out once again: that index showed food prices rising 6.3 per cent from 1965, compared with a 3.7 per cent increase for all items in the index. Clothing and health and personal care were a distant second and third with increases of 3.8 per cent and 3.1 per cent respectively.

In Toronto and Ottawa, the two centres covered in Ontario, roughly similar patterns were evident. In Toronto, food rose 7.2 per cent, followed by clothing with 4.8 per cent and tobacco and alcohol with 4.4 per cent. Ottawa's major increases were in food (6.6 per cent), tobacco and alcohol (4.3 per cent) and clothing (4.1 per cent). The all-items index rose 4.4 per cent in Toronto and 3.8 per cent in Ottawa.

Sales

Retail sales in Ontario rose 6.4 per cent last year, despite a continent-wide slump in the market for automobiles. Total sales climbed to $8,527 million from 1965's record high of $8,018 million. In terms of percentage growth Ontario's increase was exactly the same as that of all of the other provinces combined.

Sales of all food and beverage stores — the largest type of retail outlet, accounting for about 30 cents out of every retail dollar — increased by over seven per cent. The next largest group, motor vehicle dealers, experienced the smallest gain, rising only 0.6 per cent from 1965. Department stores, the third largest group in terms of sales, expanded sales 5.7 per cent.

Leading all groups in sales increases were variety stores, up 14 per cent, followed by furniture, appliance and radio stores (10.6 per cent) and hardware stores (10.4 per cent).

Sales were quite uneven throughout 1966, particularly in motor vehicles. The year began very strongly with consumer demand at a very high level. This strong tide, coupled with an added burst in buying associated with the announced April increase in Ontario's sales tax, made March a peak month, with total retail sales up 22.5 per cent from the previous March. But around April, sales slumped badly across all of Canada and the United States. In June, sales pushed up slightly, only to falter again the following month. Another mild revival came in August and September, but sales lost their momentum again in October. During the last two months of the year sales began a slow upward climb.

Hardest hit of all were motor vehicle dealers: the growth of their sales fluctuated severely. In March, Ontario's motor vehicle dealers were enjoying sales 41 per cent higher than 12 months before. But by April they were down 27.2 per cent. Sales revived in August, only after large discounts were provided on cars about to be dated by the release of the new models. This spurt was short-lived, and November and December sales were down from a year before. Full year sales were up only 0.6 per cent — less than any other type of retail outlet.

In spite of the auto slump most other retail businesses enjoyed good gains. All categories increased sales at least five per cent, except for jewellery and men's clothing, which both grew by just more than four per cent.

Canada's wholesale trade followed a fairly similar path to retail trade dropping off in the second quarter of the year after a very strong first quarter; however the fluctuations were not as extreme. Only in July and December were sales below the corresponding months for 1965.

Total wholesale trade was $12,991 million for 1966, up 5.8 per cent from 1965. Strong advances were made in most trades, but particularly in electrical supplies and construction material (up 19.4 per cent), commercial, institutional and service equipment (up 19.1 per cent), household electrical appliances (up 16.0 per cent) and newsprint and paper products (up 13.1 per cent). The only major decline was a 13.5 per cent drop in coal and coke, along with a 0.4 per cent drop in certain textile and clothing accessory trades.

[6]This index, more familiar to average consumers, measures changes in the average retail price of goods and services for personal consumption; it is based on a nationwide monthly survey of a fixed number of items, and weighted according to the purchasing patterns of moderate-income urban families of medium size as disclosed by a 1957 study. It differs from the implicit price index primarily in that it assumes fixed expenditure patterns.

ONTARIO ECONOMIC INDICATORS - SEASONALLY ADJUSTED

(*Figures for Canada)

LEADING INDICATORS		1965 Nov.	Dec.	1966 Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Average Weekly Hours Worked in Manufacturing	Number	41.2	42.0	41.0	41.4	41.1	40.9	40.5	40.4	40.6	40.9	40.6	40.8	40.5	
New Dwelling Unit Starts	Number	4,752	4,714	5,237	4,519	4,400	3,757	4,287	3,619	3,460	3,233	3,756	3,903	3,616	3,101
New Orders in Manufacturing*	$ Million	3,014	3,103	2,996	3,123	3,141	3,092	3,088	3,086	2,927	3,167	3,007	3,141	3,138	
Housing Contracts	$ Million	64.7	52.2	46.0	48.9	72.4	48.6	52.4	42.7	51.5	58.3	52.4	80.5	40.8	77.4
Business, Industrial and Engineering Contracts	$ Million	95.4	122.8	106.1	146.6	213.6	114.4	131.3	103.1	114.8	148.2	120.7	128.7	113.2	196.2
Money Supply*	$ Million	19,766	19,789	19,813	19,879	20,014	20,169	20,176	20,118	20,353	20,632	20,812	21,044	21,169	21,161
T.S.E. Industrial Index	1956=100	168.9	168.8	169.7	169.1	166.4	164.1	158.9	162.2	162.5	150.0	144.0	147.2	148.1	147.9
COINCIDENTAL AND LAGGING INDICATORS															
New Dwelling Unit Completions	Number	3,877	4,491	5,204	4,588	5,142	4,949	4,444	7,501	7,371	6,036	3,779	2,822	4,680	5,875
Average Hourly Earnings in Manufacturing	$	2.29	2.28	2.30	2.32	2.33	2.33	2.33	2.35	2.37	2.39	2.41	2.42	2.42	
Gross National Product*	$ Million		53,924			56,392			57,620			57,968			59,144
Cheques Cashed in Clearing Centres	$ Million	4,380	4,500	4,668	4,485	4,513	4,537	4,417	4,485	4,568	4,516	4,756	4,845	4,723	4,907
Retail Trade	$ Million	703	697	695	715	780	646	647	701	696	718	736	723	736	724
Labour Force	000's	2,632	2,650	2,667	2,674	2,685	2,714	2,707	2,721	2,730	2,754	2,751	2,759	2,738	2,746
Employed	000's	2,573	2,589	2,604	2,613	2,625	2,658	2,639	2,648	2,647	2,669	2,670	2,685	2,665	2,680
Unemployed	000's	59	61	63	61	60	56	68	73	83	85	81	74	73	66
Unemployed as % of Labour Force	%	2.2	2.3	2.4	2.3	2.2	2.1	2.5	2.7	3.0	3.1	2.9	2.7	2.7	2.4
Wages and Salaries	$ Million	908	917	924	937	936	948	951	964	975	980	989	1,002	1,010	
Industrial Employment Index	1961=100	119.2	120.2	120.7	121.3	121.8	122.8	123.4	124.5	122.6	124.2	123.7	124.2	124.9	
Total Industrial Production*	1949=100	264.0	268.6	268.9	271.5	273.8	274.1	274.0	273.3	270.8	274.2	275.7	278.3	279.8	279.6
Total Manufacturing		237.6	242.5	243.3	244.6	246.8	247.2	245.5	245.3	244.8	246.1	248.1	249.6	250.0	250.7
Non-Durables		229.1	234.7	235.5	236.8	240.4	240.3	239.7	240.2	240.2	240.7	239.3	241.4	242.3	245.6
Durables		247.5	251.6	252.5	253.7	254.3	255.2	252.3	251.3	250.2	252.4	258.5	259.2	259.0	256.5
Mining		377.8	385.0	372.7	387.1	390.4	393.5	397.8	391.5	376.3	389.6	384.4	401.6	406.7	400.8
Electric Power and Gas Utilities		478.0	471.6	488.9	490.7	492.3	485.5	503.5	504.8	495.6	513.7	519.3	511.4	525.4	521.2
Primary Energy Demand (Annual Rate)	BKWH	45.49	45.63	46.71	46.27	46.47	47.16	48.57	48.57	47.18	48.45	47.92	48.67	49.91	50.83
ECONOMIC INDICATORS NOT SEASONALLY ADJUSTED															
Domestic Exports*	$ Million	898.0	796.7	722.9	674.5	768.7	753.2	910.0	834.5	833.2	925.2	875.4	878.6	954.1	899.1
Imports for Consumption*	$ Million	895.3	786.9	706.8	667.9	830.7	775.0	914.0	901.7	737.0	808.8	803.4	920.0	943.0	861.5
Foreign Exchange Reserves*	US $ Million	2,681	2,665	2,562	2,548	2,510	2,469	2,412	2,342	2,315	2,281	2,244	2,223	2,242	2,236
Price Index of Industrial Materials*	1935-39=100	259.4	261.3	265.4	268.1	264.6	264.7	264.2	263.0	262.4	260.6	258.9	256.3	255.6	254.6
Business Failures	Number	76	61	70	79	80	75	73	90	56	58	63	56	54	57
Business Failures - Liabilities	$ Million	3.4	3.8	3.4	7.0	4.7	10.0	5.5	6.5	2.5	7.9	2.9	2.0	2.7	4.7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DEPARTMENT OF ECONOMICS AND DEVELOPMENT

Hon. Stanley J. Randall, Minister — *Stuart W. Clarkson, Deputy Minister*

OFFICE OF THE CHIEF ECONOMIST

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CONTENTS

THE ECONOMY

While *National Accounts* figures for the last quarter of 1966 indicated a significant upturn from the mid-1966 slump, in actual fact the strong upward movement was largely limited to the month of October. Following this another plateau was reached, one which carried over into 1967. This plateau — which will very likely soon give way to new advances — was reflected in only small gains in production, in moderate increases in unemployment and in a continued sag in construction activity.

The Index of Industrial Production dipped in December and January, then rose a scant 0.3 per cent in February. Employment gains in Ontario were unable to match the increases in the labour force; as a result the seasonally-adjusted rate of unemployment rose from 2.4 per cent in December to 3.2 per cent in April. And Ontario's construction activity, in terms of actual housing starts, the value of residential and non-residential building permits and the value of all construction contract awards, was down from 1966. However, there were signs that this lull in activity was coming to an end; Ontario's housing starts improved in March, and contracts awarded in April, unlike the previous two months, were no longer below their 1966 level.

Not all of the indicators were reflecting a slower pace of activity. Exports, for one, were 17.5 per cent higher in the first quarter of 1967 than in the corresponding period of 1966. Because the statistics represent only preliminary estimates and are not broken down by commodity groups, it is impossible to tell which exports have been responsible for this gain. It may in fact be that some of the gain was due to a sudden jump in automotive exports following the year-end termination of a strike at General Motors' Ste. Therese, Quebec plant. The possibility also exists that large amounts of wheat shipped as foreign aid sharply increased the 1967 export statistics. Regardless of these two factors, it appears that exports have been holding up quite well.

Preliminary estimates of imports indicate a gain of close to 15 per cent for the first quarter of the year.

Production

Production so far this year has been at somewhat less than a desirable level. This observation is based not only on the performance of the Index of Industrial Production, available for the first two months of 1967, but also on other major and more current economic statistics. Motor vehicle production in Canada, for instance, has been consistently lower than one year ago, although the difference appears to be narrowing at present.

CANADIAN MOTOR VEHICLE PRODUCTION

	1967	*1966*	*Per Cent Change*
	Units		
January	80,490	86,422	— 6.9
February	74,104	85,691	—13.5
March	85,053	96,325	—11.7
April	82,978	88,518	— 6.3
Year to date	322,625	365,956	—11.8

Source: DBS, *Preliminary Report on the Production of Motor Vehicles,* (42-001).

Steel ingot production for the first four months of the year has only reached 3.13 million tons, 7.3 per cent less than in 1966. This indicator recently has shown some improvement as well, with the year-to-year change moving from a 22.0 per cent decline in January to an 0.4 per cent increase in April. Production in April was 848.4 thousand tons.

The seasonally-adjusted Index of Industrial Production, available for January and February, also points out the current sag in the economy. In February the Index was 279.3 (based on 1949 = 100), up 0.3 per cent from January, which in turn had been 0.3 per cent lower than December 1966. The unadjusted statistics indicated year-to-year gains of around three per cent for the first two months of the year.

The most pronounced gain in the Index was in electric power and gas utilities, particularly in electric power, which was up about 12 per cent from last year. Mining experienced a 10 per cent gain comparing January figures, but this dropped to 3.6 per cent in February. Manufacturing remained about 1.5 per cent ahead of last year for the first two months, with non-durables up just over two per cent. Declines in rubber products, textiles and clothing were responsible for limiting the non-durables group to this small gain. Durables were up barely one per cent, with decreases in transportation equipment, iron and steel products and non-metallic minerals nearly wiping out the substantial gain in electrical apparatus and supplies.

Construction

The value of construction contract awards in Ontario for the first four months of 1967, at $636.4 million, was five per cent lower than in 1966, according to the *Southam Building Guide*. Looking at individual months, February and March were below their 1966 levels, while January and April were higher. January's 14 per cent gain this year was largely due to a sharp rise in the value of awards for manufacturing and processing plants. The reduced value of awards for hospitals and educational facilities contributed to the overall declines in February and March (6.2 per cent and 26.9 per cent respectively). March was also the only month in which the value of residential contracts was down. There was, in addition, a marked drop in business awards that month. In April the $187.0 million value of awards – reflecting a 0.8 per cent increase over 1966 – was largely due to an exceedingly large value for electric power installations.

The number of housing starts in Ontario centres during the first three months of this year was 5,799 units,[1] a drop of 16.6 per cent from the January to March period of 1966. January and February had considerably fewer starts in 1967 than in 1966 – 30 per cent and 23 per cent respectively – but in March a 7.9 per cent increase was recorded. Metropolitan Toronto, accounting for roughly one half of the total number of starts, was down over 26 per cent for the quarter, comparing 1967 and 1966 figures.

Completions in Ontario centres during the same period were down 4.1 per cent to 11,689 dwelling units. During March 4,061 units were completed. At March 31st, 1967, the number of dwelling units under construction stood at 29,842, more than a third lower than 12 months earlier.

Statistics on building permits issued, though only available for January, confirm that both residential and non-residential construction were below last year's level. In terms of the value of building permits issued, residential permits were down 8.5 per cent and non-residential 5.5 per cent. In the non-residential category, industrial permits were down quite sharply – 36 per cent – while commercial permits were 19 per cent higher. Institutional and government permits were down five per cent.

Employment

The somewhat slackened pace of the economy during the first few months of 1967 has been responsible for the growing gap between the number in the labour force and the number of individuals employed. On a four-month average basis, Ontario's labour force has risen by 118,000 or 4.4 per cent, while employment has risen 97,000 or 3.7 per cent. The result has been an increase in the average rate of unemployment, from 2.2 per cent for the first four months of 1966 to 2.9 per cent for the January to April period of 1967.

Figures for the individual months of this year, presented in the table of economic indicators at the back of the *Review*, show the changes from month to month. By April the labour force had risen to 2,841,000; with the number of individuals employed at 2,750,000, this left an unemployment rate of 3.2 per cent – considerably higher than the 2.1 per cent recorded in April 1966.

Canada's experience in the first part of this year was similar to that of Ontario; the average labour force increase from 1966 was 3.7 per cent while the average gain in employment was 3.3 per cent. Average unemployment rose from 3.4 per cent in 1966 to 3.8 per cent in 1967. By April the monthly unemployment rate had risen to 3.9 per cent of the labour force.

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[1]Statistics now refer to centres of 10,000 population and over (based on 1966 Census Area definitions) and not 5,000 population and over as in the past.

Retail Sales

A complete revision of all retail sales statistics back to 1961 has produced a new Ontario total of $8,419 million for 1966, 5.9 per cent higher than 1965's $7,950 million. The revisions incorporate certain changes in the classification of several types of business, including shifts from retail to wholesale, retail to service and service to retail.[2]

Ontario's retail sales for the first three months of 1967 have not fared as well as total Canadian retail sales. For the January to March period, sales in Ontario were $1,924 million, 1.3 per cent less than the corresponding period of 1966; Canada's sales were $5,085 million, 3.5 per cent higher than the first three months of 1966. Comparing individual months for 1966 and 1967, Ontario's retail sales were up 3.2 per cent in January, 1.0 per cent in February, but were down 6.9 per cent in March. Part of the explanation for this March decline lies in the fact that Ontario's retail sales in March 1966 – one month before the increase in Ontario's retail sales tax – were exceptionally high. That month, for example, motor vehicle sales soared almost 50 per cent higher than they had been one year earlier.

Ontario's variety stores enjoyed the largest gain for the three-month period this year, recording sales 15 per cent higher than last year. General stores, fuel dealers, drug stores and garages and filling stations recorded gains ranging from 10 per cent to seven per cent.

Motor vehicle dealers experienced the sharpest reduction of all groups as sales fell to 19.3 per cent below last year's three-month total. Although these sales have been weak this year, the spectacular figure for March 1966 has exaggerated the decline. Motor vehicle sales were actually 0.4 per cent higher in January, 13.2 per cent lower in February, but down 32.9 per cent in March of this year.

Others experiencing lower sales for the first quarter of 1967 were furniture, appliance and radio dealers (down 12.0 per cent), shoe stores (down 2.7 per cent), jewellery stores (down 2.4 per cent) and men's clothing stores (down 1.8 per cent).

Prices

Price increases this year have moderated somewhat from the substantial increases of 1966, although there have recently been certain noticeable increases in some price indexes. The annual increase for all items in the Consumer Price Index (based on 1949 = 100) was less than three per cent in February and March, but more than three per cent in January and April. The accompanying table shows

[2]For specific details consult DBS, *Retail Trade 1930-1961*, (63-510).

THE CONSUMER PRICE INDEX IN 1967
(1949 = 100)

	Monthly Index				*Per Cent Change from One Year Ago*			
	Jan.	*Feb.*	*March*	*April*	*Jan.*	*Feb.*	*March*	*April*
All Items	146.0	146.1	146.5	147.8	3.4	2.8	2.9	3.2
Food	144.9	144.1	143.3	144.0	3.1	1.1	—0.1	0.2
Housing	147.6	147.7	148.4	150.1	3.3	3.2	3.6	4.4
Clothing	128.6	129.1	130.8	131.9	4.8	4.7	5.3	5.3
Transportation	153.0	155.0	155.6	157.0	2.6	3.3	3.7	4.2
Health and Personal Care	184.9	185.1	185.2	190.0	3.8	3.9	4.0	6.0
Recreation and Reading	161.9	163.6	163.7	164.2	4.2	4.6	4.5	4.2
Tobacco and Alcohol	126.5	126.8	127.5	127.7	2.8	2.8	3.3	2.2

Source: DBS, *Price Movements*, (62-001).

these gains and the changes in individual components of the index.

Part of the 3.2 per cent increase in April is directly attributable to sales tax increases in Quebec and Newfoundland.

The food index, one of the principal factors in the Consumer Price Index' sharp increase last year, has now become the most stable component. Several other components, however, have recorded substantial increases, namely health and personal care, clothing and housing.

The significance of sales tax increases to the April index can be seen by comparing the two Ontario centres reported with the all-items index elsewhere. In Toronto the all-items index was 2.6 per cent higher than in April 1966; in Ottawa it was 1.6 per cent higher. Both compared favourably with the 3.2 per cent increase for all of Canada and the 3.8 per cent and 3.0 per cent gains for Montreal and St. John's respectively.

Population

Recently published census data for 1966 record Ontario's population at 6,960,870 as of June 1, 1966. This represents an increase of 11.6 per cent from the 1961 census figure of 6,236,092 — second only to British Columbia's 15.0 per cent increase. Ontario's population, the largest in all of Canada, represents 34.8 per cent of the Canadian total of 20,014,880. Over 40 per cent of the increase in Canada since 1961 has taken place in this province.

The latest quarterly estimates of population place Ontario's figure at 7,115,000 as of April 1, 1967. Canada's corresponding figure is 20,334,000.

Kennedy Round Tariff Negotiations

On May 16th, 1967, agreement was finally reached by the 44 participants in the Kennedy Round of the GATT negotiations. Tariff cuts averaging 33 to 35 per cent were agreed upon, affecting an estimated $40 billion of trade among more than 80 countries. Some of the most important elements of the agreement are:

- higher floor and ceiling prices for wheat;
- tariff reductions on 6,300 industrial and farm items;
- an international food-aid program of 4.5 million tons a year; and
- an anti-dumping accord to protect businessmen from foreign competitors trying to export goods at less than cost.

Specific implications of the agreement for Canada cannot be calculated at least until the precise terms of settlement are made public (probably sometime in June). However a number of general effects can be predicted.

The most important benefit to Canada may well be freer access to the United States market. With the advantages of proximity and familiarity with U.S. industries and markets, our exporters should make substantial gains.

The lowering of tariff barriers to the Common Market, though of lesser importance, should also provide many new opportunities for Canadian exporters.

Some Canadian industries will face increased competition from foreign products as a result of the lowering of certain Canadian tariff rates. In the short run this could produce some economic dislocation; but in the long run Canada will benefit from the more efficient use of its productive resources.

Wheat farmers will benefit directly from the increase in world wheat prices, and Canadian industry — particularly Ontario's — will receive indirect benefits based on the increased demand of farmers for industrial products such as farm machinery.

THE PERFORMANCE OF ONTARIO'S MINING INDUSTRY IN 1966

The Applied Economics Branch of the Office of the Chief Economist has a limited number of copies of this 29-page report available for distribution. Copies may be obtained free of charge by writing to:

Ontario's Mining Industry in 1966
Editor, Ontario Economic Review
Office of the Chief Economist
Parliament Buildings
Toronto 5, Ontario

FERTILITY AND POPULATION GROWTH IN ONTARIO

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Ontario's early 1967 population of 7.1 million constitutes about one third of the entire population of Canada. It is larger than the populations of the majority of American and African nations and close to half of the Asian nations; it is also larger than the populations of nations such as New Zealand, Denmark, Finland, Ireland, Norway and Switzerland.

Since the start of this century Ontario's population has registered nearly a three-fold increase. The crucial demographic variable in this growth has been fertility. While one out of every three persons added to Ontario's population has been accounted for by net migration (immigration minus emigration), the remaining two have been the result of the net balance of births over deaths.

This crucial demographic variable – fertility – affects the Ontario economy through its influence upon the level of per capita income, the level of consumption, the need for social investments such as education and medical care, the need for and the pattern of private investment, and the supply of labour.

Since the level of fertility is so important to Ontario's economy, it is intended here to look at Ontario's fertility both in terms of past experience and future prospects. The first section reviews the historical trend in Ontario's crude birth rate and compares it with that of Canada and some other countries. The second section analyses and evaluates various demographic factors that are significant in determining fertility. The final section looks into the recent decline in Ontario's age-specific fertility rate[1] and the question of whether this trend will continue. The main points developed in the discussion are brought together in the conclusion.

THE HISTORICAL TREND IN ONTARIO'S CRUDE BIRTH RATE

Crude birth rates (or births per 1,000 population) in Ontario and Canada for various years are shown in Table 1 at right. (See also Figure 1, page 6.) Both rates were fairly high in the 1921-25 period, but were reduced by the Great Depression of the 1930's and by World War II. After the war Ontario's crude birth rate swung upward, reaching its peak in 1957. Since then it has tended to decline. This trend is still continuing today, though in the near future, due to a high percentage of persons in the younger age groups, the crude birth rate is expected to take an upward trend. One thing clearly noticeable in Ontario's crude birth rate is the fact that it has remained consistently below that for Canada. However, this difference has narrowed considerably in recent years, as can be seen in Figure 1.

[1]The age-specific fertility rate represents the ratio of the *number of live births to women in a given age group* to the *total number of women in that age group.*

TABLE 1

CRUDE BIRTH RATES IN ONTARIO AND CANADA, 1921-1966

Year	*Ontario*	*Canada*
1921-25	23.7	27.4
1926-30	21.0	24.1
1931-35	18.5	21.6
1936-40	17.5	20.7
1941-45	19.8	23.7
1946-50	24.6	27.6
1951	25.0	27.2
1952	25.9	27.9
1953	26.3	28.1
1954	26.6	28.5
1955	26.5	28.2
1956	26.6	28.0
1957	26.8	28.2
1958	26.2	27.5
1959	26.3	27.4
1960	26.1	26.8
1961	25.3	26.1
1962	24.6	25.3
1963	24.1	24.6
1964	23.2	23.5
1965	21.0	21.4
1966	19.2[1]	20.0[1]

[1]Preliminary.

Sources: DBS, *Vital Statistics 1964*, pp. 68 and 72-3.
Vital Statistics 1965, p. 12.

FIGURE 1: CRUDE BIRTH RATES IN ONTARIO AND CANADA, 1921-1966

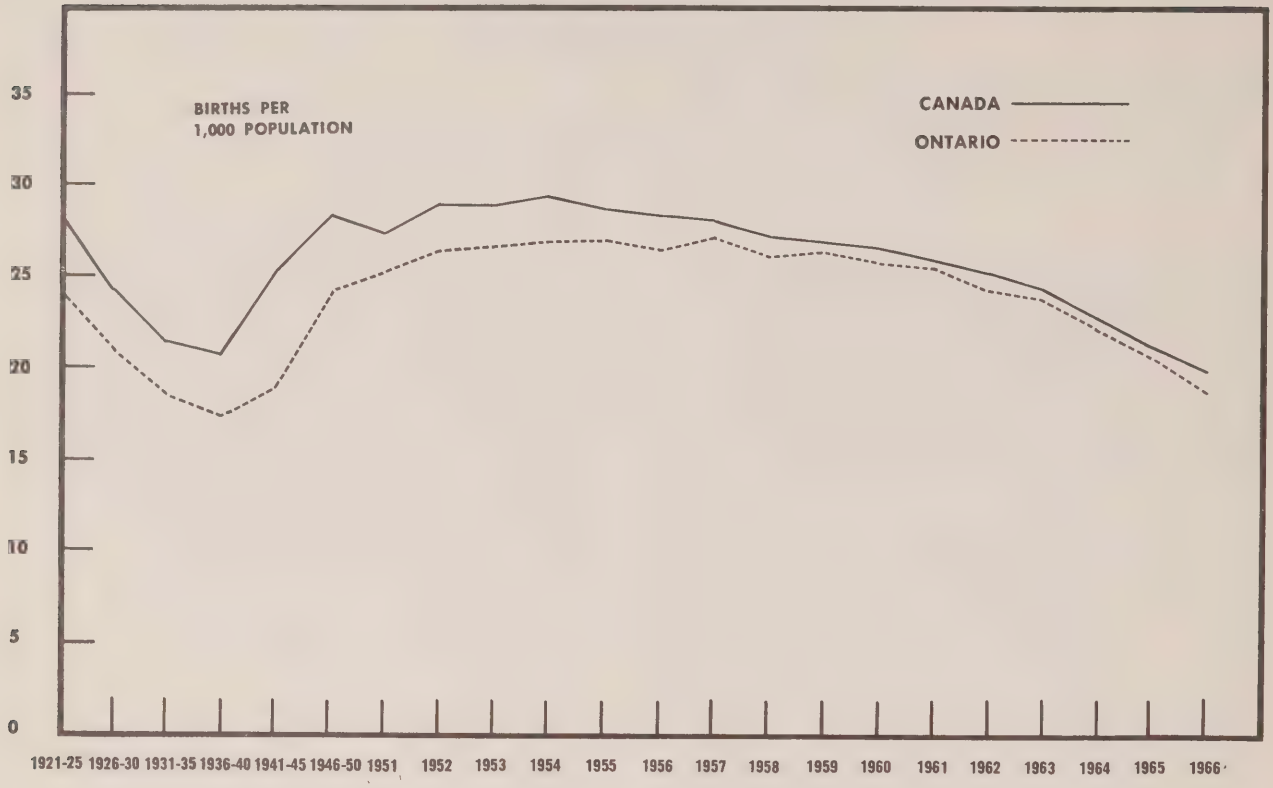

FIGURE 2: CRUDE BIRTH RATES IN ONTARIO AND SELECTED COUNTRIES, 1950-1966

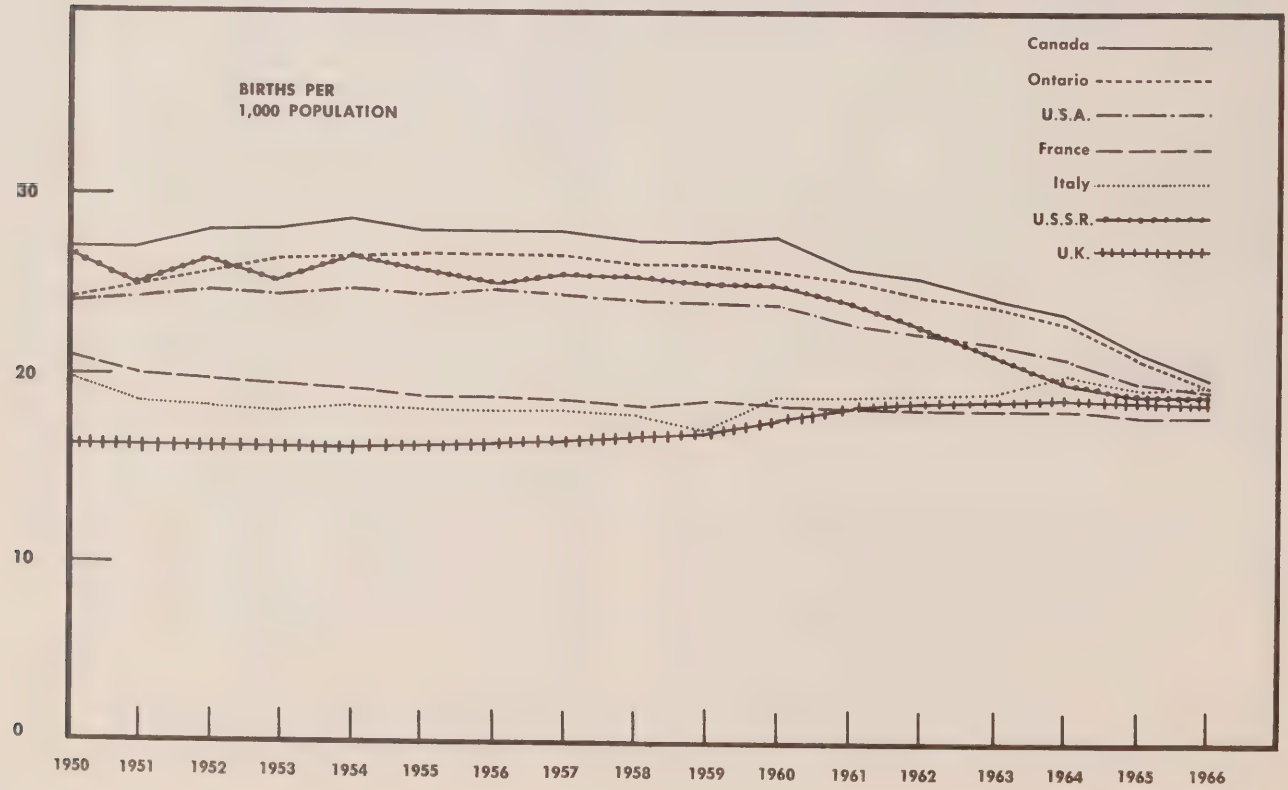

Figure 2 compares Ontario's crude birth rate from 1950 to 1966 with those of a few selected countries. In the 1950's there was wider variance in the crude birth rates of these countries than in 1966. The variance in crude birth rates was as much as 12 points (or births per 1,000 population) in 1950 but only two points in 1966. However, Ontario's crude birth rate continues to remain high in comparison with the birth rates of all the countries (except Canada) shown in Figure 2.

DEMOGRAPHIC FACTORS DETERMINING FERTILITY

To assess the past trends in fertility with a view to gaining some insight into the future behaviour of fertility, it is necessary to probe deeper and analyse factors such as the following five: age at marriage, marriage rates, differential fertility, birth parity,[2] and age-specific fertility.

1. Age at Marriage

Since the number of children born to a couple is related to the length of the period during which the couple remains married, the age at marriage is one of the determinants of fertility. During the period 1921-25, 61.1 per cent of *all* brides in Ontario were under 25 years of age when married; but by 1960-65 the percentage had risen to 75.2 per cent. To assess the influence of age at marriage on fertility, however, it is more important to look at the age of brides at *first* marriage. Table 2 provides this information.

The percentage of girls who were under the age of 20 when married rose from 29.3 per cent in 1952 to 37.5 per cent in 1961. Although the percentage fell slightly the following two years, by 1965 it had again risen to 37.2 per cent. In 1965, 84.7 per cent of the girls under 24 were in wedlock and were thus exposed to the risk of pregnancy. The percentage of women marrying late had declined. As is to be expected, the tendency to marry early was common among men as well. In 1952, 55.1 per cent of all men under 24 years of age were married, while in 1965 this figure had risen to 64.5 per cent.[3]

It may be remembered that the lowering of the age of marriage in the 1950's and 1960's occurred *pari passu* with an increase in the percentage of young men and women attending schools and universities. The increasing emphasis on education, particularly in view of the expected increased competition for employment in the future, has necessitated the continuation of education and the acquisition of skills by persons in younger age groups. This points to the possibility that a still higher percentage of the 15-24 year age group will remain in school in the future. At the same time the increasing acceptance of the new morality in sex relations and extensive use of the 'pill' before marriage will probably raise the age at marriage. However, it is unlikely that either of these factors will raise the age at marriage substantially in the near future.

2. Marriage Rates

The rate at which the population marries has a bearing on fertility. A population such as that of India, where marriage is universal, would normally have a higher fertility than, say, that of Ireland, where marriage is not universal. Statistics on Ontario's marriage rates are available from 1921 onward. The number of marriages per 1,000 population in the 15-44 year age group was 17.0 in the 1920's and 16.0 in the 1930's, but it jumped to 21.9 in the 1940's. It then declined to 20.3 in the next decade and stood at 17.7 during the first five years of the current decade. The changes in marriage rates are partly a function of the age distribution of the population and partly a function of the prevailing

[2]Birth order — first child, second child, etc.

[3]Registrar General, *Vital Statistics*, 1952-65.

TABLE 2

AGE AT FIRST MARRIAGE FOR FEMALES IN ONTARIO, 1952-1965

Age	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Under 20	29.3	29.9	30.5	31.0	33.3	34.0	35.1	35.5	36.5	37.5	37.4	35.8	36.1	37.2
24 and Under	73.9	74.7	75.4	75.4	76.6	77.6	78.3	79.3	80.4	81.2	82.6	82.8	83.9	84.7
29 and Under	89.4	89.8	90.1	90.0	90.7	91.0	91.5	91.6	91.7	92.0	92.4	92.7	93.3	94.1
34 and Under	94.9	95.0	95.3	95.3	95.7	95.7	95.9	95.7	95.9	96.0	96.0	96.1	96.4	96.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Registrar General, *Vital Statistics*, 1952-1965.

fashion in society. Table 3 compares Ontario's crude marriage rates[4] with those of Canada and a few selected countries.

The crude marriage rates for all countries remained high during the 1946-50 period mainly because of the increased number of marriages after the return of the soldiers fighting in World War II. After that the rates declined in Ontario and most of the other countries (except Japan) until the early 1960's. Since 1963, however, crude marriage rates have increased, though only very slowly. Assuming the current attitude of society towards marriage remains unaltered, the large number of persons in the lower age groups means that this rate will undoubtedly rise.

During the period 1961-64 Ontario's crude marriage rate was 7.1; at the same time 13.8 per cent of the total population was in the 15-24 year age group. By 1971-76, however, the percentage of total population in the 15-24 year age group will have risen to 17.0 per cent. In other words, there will be a 55.4 per cent increase in the 15-24 year age group between 1961 and 1971, and a 73.6 per cent increase between 1961 and 1976. The above percentages indicate that an increase in crude marriage rates in the next few years ahead can be predicted.

3. Differential Fertility

Differential fertility means differences in human fertility associated with such factors as income, education, occupation, residence, religion and ethnic origin. A careful analysis of differential fertility would provide reliable indicators pointing to future trends in fertility. In spite of the importance of the concept of differential fertility this has been one of the most neglected fields of population study in Canada. The most reliable figures on differential fertility are collected by empirical investigations of a representative sample of the population. It has been necessary to look at the numerous studies conducted in the United States in the hope that their conclusions will be applicable to the Canadian population.

(a) *Socio-Economic Status*

The term socio-economic status may be assumed to be dependent primarily upon income, education and occupation.

i. *Income.* The relationship between income and fertility can be investigated either with cross-sectional income differences at a point of time or with time series differences over a period of time. Fertility used to vary according to cross-sectional income differences, with income negatively correlated to fertility. This relationship, however, does not seem to hold any longer. At present the fertility differentials at a particular point of time, standardized for age, are not too different for the upper and lower income groups. On a time series basis, however, some studies conclude that if only those couples who practise contraception effectively were studied, fertility would be found to increase with income. If income rises very rapidly, children may become a source of "psychic income or satisfaction and in the economist's terminology, children would be considered a consumption good."[5] Thus more children

[4]The number of marriages per 1,000 population.

[5]Gary S. Becker, "An Economic Analysis of Fertility," *Demographic and Economic Change in Developed Countries* (National Bureau for Economic Research: Princeton), p. 210.

TABLE 3

CRUDE MARRIAGE RATES FOR ONTARIO AND SELECTED COUNTRIES, 1946-1965

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Ontario	11.2	10.5	10.1	9.9	9.7	9.8	9.5	9.3	8.8	8.5	8.6	8.3	8.1	7.8	7.5	7.1	7.0	7.0	7.4	7.6
Canada	10.9	10.2	9.6	9.3	9.1	9.2	8.9	8.8	8.4	8.2	8.3	8.0	7.7	7.6	7.3	7.0	7.0	6.9	7.2	7.3
U.S.A.	16.4	13.9	12.4	10.6	11.0	10.4	10.0	9.8	9.2	9.3	9.5	8.9	8.4	8.5	8.5	8.5	8.5	8.8	9.0	9.2
Japan	.....	12.0	12.0	10.3	8.6	8.0	7.9	7.9	7.9	8.0	8.0	8.5	9.1	9.2	9.3	9.5	9.8	9.8	9.9	9.7
France	12.8	10.5	9.8	8.2	7.9	7.6	7.4	7.2	7.3	7.2	6.7	7.0	7.0	7.1	7.0	6.8	6.7	7.1	7.2	7.1
Germany	8.8	10.0	10.6	10.1	10.6	10.3	9.4	9.0	8.8	8.8	9.1	9.0	9.1	9.2	9.4	9.4	9.2	8.8	8.6	8.3
Italy	9.2	9.7	8.4	7.8	7.7	7.0	7.1	7.2	7.5	7.6	7.5	7.5	7.6	7.7	7.8	8.0	8.1	8.3	8.2	7.7
Sweden	9.5	8.8	8.4	7.9	7.7	7.7	7.4	7.4	7.3	7.2	7.1	7.1	6.9	6.7	6.7	7.0	7.1	7.0	7.6	7.8
U.K.	9.0	9.2	9.0	8.5	8.1	8.2	7.9	7.8	7.7	8.1	7.9	7.8	7.5	7.5	7.5	7.5	7.4	7.5	7.6	7.7

Sources: Registrar General, *Vital Statistics, 1965*, p. 40.
United Nations, *Demographic Year Book*, 1954 (pp. 604-5), 1959 (pp. 610-15) and 1965 (pp. 780-85).

would be wanted. However, it is doubtful that the income-based quantity-elasticity of children is very significant. It has also been postulated that "permanent income, the income a man expects to have over his life time, may be positively correlated with fertility, while current income is not."[6]

ii. *Education.* Among the various factors affecting socio-economic status and thereby fertility, education of the wife was, and continues to remain, most important. According to the Growth of American Families (GAF) study in 1960 "the relationship between the number of expected births and the educational attainment of the wife tends to be negative, with significantly larger families being anticipated by the less-educated."[7] The lower fertility of more-educated wives may be explained by the average higher age of marriage of more-educated females, their stronger motivation to limit families (particularly if they are in the labour force), and their higher efficiency in the practice of contraception. In 1960, according to the GAF study, those wives with college education and those with four years of high school education had 2.0 and 2.1 births respectively, while the wives with less than three years of high school education or only grade school education had 2.6 and 3.1 births respectively.[8] Similarly, while college-educated husbands had 2.1 children, husbands with only grade school education had 2.8 children.[9]

The level of educational attainment in Ontario, both for males and females, is rising and this is expected to slacken fertility rates. The percentage of female population in the 5-24 year age group attending school in Ontario rose from 54.6 per cent in 1931 to 67.2 per cent in 1961.[10] The following indicates the changes in the various component age groups:

Age Group	*Percentage of Female Population in School*	
	1931	*1961*
5- 9	74.1	82.3
10-14	96.3	97.6
15-19	39.9	59.9
20-24	2.7	5.1
Total for 5-24	54.6	67.2

Source: DBS, *1961 Census of Canada,* Bulletin 7.1-10, pp. 10-36.

Table 4 shows the percentage distribution of female population in Ontario 15 years of age and over, not attending school, by highest level of schooling they have had, for the year 1961. While 70 per cent or more of the females in the age groups between 15 and 34 years of age had secondary school education or better, progressively smaller percentages were recorded for the older age groups. The expected impact upon fertility of this higher percentage for females in the younger age groups is obvious.

[6]R. Freedman and L. Coombs, "Economic Considerations in Family Growth Decisions," *Population Studies,* XX:2 (November 1966), 198.

[7]P. K. Whelpton, A. A. Campbell and J. E. Patterson, *Fertility and Family Planning in the United States,* Princeton, 1966, p. 93.

[8]Pascal K. Whelpton, *et al., loc. cit.,* p. 95.

[9]*ibid.*

[10]DBS, *1961 Census of Canada,* Bulletin 7.1-10, pp. 10-36.

TABLE 4

PERCENTAGE DISTRIBUTION OF FEMALE POPULATION 15 YEARS AND OVER NOT ATTENDING SCHOOL BY HIGHEST LEVEL OF SCHOOLING IN ONTARIO, 1961

Age Group	*No Schooling*	*Elementary*	*Secondary*	*Some University*	*University Degree*
All	1.1	39.7	54.7	2.5	2.0
15-19	0.8	24.2	74.6	0.4	—
20-24	0.5	21.5	74.0	2.6	1.4
25-34	0.6	29.8	64.1	2.9	2.6
35-44	0.6	34.4	60.0	2.7	2.3
45-64	1.4	48.0	45.9	2.6	2.1
65 & over	2.9	64.0	30.5	1.6	1.0

Source: DBS, *1961 Census of Canada,* Bulletin 7.1-10, pp. 10-46.

iii. *Occupation.* Fertility differentials by occupation in North America were quite marked in the first half of this century. In recent years, however, these differentials have narrowed considerably, though they have not completely disappeared. According to the GAF study, wives of men in farm occupations expected about 13 per cent more births than their counterparts married to men in other occupations.[11] The wives of men in blue-collar occupations expected seven per cent more births than the wives of men in white-collar jobs.[12] Because of the ever-increasing number of individuals in non-farm and non-blue-collar occupations in Ontario (and in all progressive economies), it is probable that fertility will continue to show a downward trend.

Though the effects of income and occupation on fertility differentials have become weaker in recent years, the combined effect of all three criteria of socio-economic status, *viz.*, income, education and occupation, could be significant. The conclusion that could be drawn is that the inverse relation of fertility to socio-economic status is not a thing of the past; therefore fertility is likely to continue its declining trend as the socio-economic status of the population improves.

(b) *Residence*

According to the American demographer, William Petersen, "the difference in fertility between rural and urban residents has been one of the most marked, most persistent, and most significant in the nation's (United States) history."[13] Urban fertility in all countries and at all times in the past has been lower than rural fertility. Urban living and working conditions, attitudes and aspirations favour this lower fertility for urban populations. However, rural-urban differences in fertility are not as significant as they once were. In 1956 the crude birth rate in Ontario was 25.8 for urban areas, 27.8 for rural areas;[14] but by 1964 there was no significant difference in the rates for rural and urban areas, both rates being 23.0 births per 1,000 population. The absence of any differential between rural and urban fertility in Ontario may be due to the definition adopted for rural and urban areas.[15] People with higher socio-economic status may have moved to suburban communities with less than 1,000 population, while people belonging to lower socio-economic status may have continued to live in the larger cities. The absence of any rural-urban differential fertility affords no help in making observations regarding the future trend of fertility based on residence.

(c) *Religion*

Among the various factors affecting fertility differences in North America, religion has been found to be the most important. This has been borne out by the results of several investigations studying the fertility performance of various religious groups in North America. Catholics in North America were found to have a higher fertility than non-Catholics. The GAF study refers to "the larger family preferences of Catholics" and observes that "religious preference is the best single predictor of the number of children a couple desires."[16] This was one of the main conclusions drawn from the study. While the average expected number of births was 3.7 for Catholics, for Protestants it was only 2.9.[17] Jews had the lowest fertility, both expected and realized. This significant differential in fertility between Catholics and non-Catholics could be due to (1) the Catholic belief that the primary purpose of marriage is procreation and education of children, and (2) the Catholic Church's disapproval of Catholics using chemical or mechanical devices for contraception. However, the Church's stand may soon become more tolerant and significantly affect Catholic fertility in the future. This was assumed after confidential information leaked out following the recent discussions of the Papal Commission on Birth Control to the effect that the majority of the members of the Papal Commission had recommended for Catholics more freedom to use birth control methods other than permanent or periodic continence.

The Catholic component of the population of Ontario has steadily increased in recent years due to this higher rate of natural increase and a higher percentage of Catholics in the immigrant population. It is suspected that Ontario's population emigrating to the United States consists mainly of non-Catholics, further helping to raise the percentage of Catholics in Ontario's population. This percentage rose from 17.1 per cent in 1871 to 21.7 per cent in 1931 and

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[11]Pascal K. Whelpton, *et al., loc. cit.*, p. 112.

[12]*ibid.*

[13]William Petersen, *Population* (New York: the MacMillan Company, 1961), p. 217.

[14]Registrar General, *Vital Statistics*, 1956, pp. 52-54.

[15]"The urban population consisted mainly of the population residing in cities, towns and villages of 1,000 or more whether incorporated or not, and comparable metropolitan areas, the rest of the population being classified as rural." DBS, *1961 Census of Canada*, Bulletin 7.1-2, p. 2-2. Ontario's urban population rose from 34.8 per cent of the total population in 1901 to 71.1 per cent in 1961.

[16]Charles Westoff, Robert G. Potter and Philip C. Sagi, *The Third Child*, Princeton, 1963, p. 79.

[17]Pascal K. Whelpton, *et al., loc.cit.*, p. 71.

30.8 per cent in 1961.[18] During the single decade 1951-61, the Catholic population rose by 57.8 per cent. It is highly probable that Catholic immigration to Ontario will continue to remain high in the next few years; assuming that Catholic fertility remains above the fertility of non-Catholics, this factor should stimulate, at least slightly, Ontario's fertility.

(d) *Ethnic Origin*

Certain ethnic groups are found to have a higher fertility than other ethnic groups, and the proportion of those ethnic groups showing higher fertility is increasing in Ontario. However, data relating to fertility by ethnic groups are not available beyond the year 1951. Table 5 shows fertility per 1,000 women in the major ethnic groups in Ontario and the percentage those ethnic groups are of the total population.

In 1941 non-British ethnic groups such as French, German, Italian, Polish, Ukranian, Hungarian, Indian and Eskimo had higher fertility rates than the British ethnic group (which in 1941 formed 54.5 per cent of the total population). In 1951, all non-British ethnic groups except the Jews had a higher fertility than the British. As a result of the higher fertility of non-British ethnic groups and the large component of these high-fertility ethnic groups in the immigrant population of Ontario, the percentage of the British ethnic group in the total population has progressively declined. The possibility of a continuing high rate of immigration from countries other than Britain, taken together with the assumption that non-British ethnic groups will continue to maintain their higher level of fertility, points to the possibility that fertility may be positively affected in Ontario.

Table 6 summarizes the expected effect of the factors discussed under differential fertility upon future fertility.

4. Birth Parity

The birth parity or birth order gives additional information on the fertility behaviour of women. Table 7 provides information on live births in Ontario by birth order during the period 1931-1965, expressed as a percentage of total births.

The proportion of first births to total births declined in the 1950's and reached its lowest point in 1963. Since then, despite a decrease in crude birth rates and in age-specific fertility rates, first order births have been found to form an increasing per-

[18]DBS, *Census of Canada*, 1931-61.

TABLE 5

PERCENTAGE OF TOTAL POPULATION AND FERTILITY PER 1000 WOMEN ACCORDING TO ETHNIC GROUP IN ONTARIO, 1941-1961

	British	Irish	French	German	Italian	Dutch	Polish	Ukranian	Jewish	Hungarian	Indian & Eskimo	Others	Total
1961													
Percentage of total population	45.5	14.0	10.4	6.4	4.4	3.1	2.4	2.1	1.0	1.0	0.8	8.9	100.0
Fertility per 1000 women	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1951													
Percentage of total population	51.3	15.7	10.4	4.8	1.9	2.1	2.0	2.0	1.6	0.6	0.8	6.7	100.0
Fertility per 1000 women	47.0	49.7	68.2	48.7	54.3	62.8	60.4	60.4	44.1	50.6	91.5	n.a.	49.9
1941													
Percentage of total population	54.5	17.6	9.9	4.4	1.6	1.9	1.5	1.3	1.8	0.6	0.8	4.1	100.0
Fertility per 1000 women	35.1	34.9	59.6	38.1	38.6	34.6	44.0	57.2	28.7	36.4	59.7	n.a.	38.5

Source: Registrar General, *Vital Statistics*, 1941-1951.

TABLE 6

PROBABLE EFFECT[1] OF SELECTED SOCIO-ECONOMIC FACTORS ON ONTARIO'S EXPECTED FERTILITY

Factor	*Effect upon Fertility*
1. Socio-economic status	negative
(a) Income	no effect or positive
(b) Education	negative
(c) Occupation	negative
2. Residence	no effect
3. Religion	positive
4. Ethnic Origin	positive

[1]Based on expected future patterns of development in the various factors discussed.

centage of total births. This has come at the same time as a decline in the age-specific fertility rates for females in 15-19 and 20-24 year age groups. It is obvious, therefore, that this increase in first order births has been caused either by a greater number of newly married couples or by the decision of couples married for some time to have babies — an event they had been postponing.

Second and third order births have also fallen slightly, particularly in 1965. However, the fall in fourth or higher order births has been more noticeable. Such births fell from 29 per cent of all births in 1961-63 to 26 per cent in 1965. It appears that more and more couples are deciding to limit their families to three children or less.

The increase in the percentage of first order births would have been significant but for the decision of many newly married couples to postpone having their first child. This is evident from Table 8, showing first marriages for females and first births during the period 1952-65.

In relating first marriages to first births, it should be remembered that there is a time lag between the two. Assuming a time lag of one year, it is found that up until 1957 the percentage change in first order births over the previous year rose more than, or fell less than, the percentage change in first marriages. There was no specific pattern between 1958 and 1962; but from 1963 to 1965 the percentage change in first order births consistently rose less than, or fell more than, the percentage change in first marriages. This indicates that many newly married couples are postponing the birth of their first child.

5. Age-Specific Fertility Rates

For analytical purposes and for purposes of population projection it is useful to concentrate upon age-specific fertility rates rather than on crude birth rates. Age-specific fertility rate refers to the ratio of the number of live births to women in a given age group to the total number of women in that age group. Table 9 shows age-specific fertility rates for Ontario, Canada and U.S.A. for the period 1931-65. The most important age groups in the table are 20-24, 25-29 and 30-34, usually accounting for 70 to 80 per cent of total births at any time. The fertility of age groups 20-24, 25-29 and 30-34, as for other age groups, rose during the 1930's and 1940's and reached its peak in the late 1950's. Following that, a declining trend was observable — particularly steep in recent years. Age-specific fertility in Canada for the age groups 20-24 and 25-29 started falling after reaching peaks in 1959, one year before Ontario's peaks were reached. The fertility of Ontario's 30-34 year age group started declining earlier, from its 1956 peak. This more or less corresponded with the timing of the fertility decline in the United States. What is going to happen to the fertility of these three age groups is one of the most important questions facing those who attempt to project Ontario's population.

TABLE 7

BIRTH ORDER IN ONTARIO AS A PERCENTAGE OF TOTAL LIVE BIRTHS, 1931-1965

	1931	1941	1946	1951	1956	1961	1962	1963	1964	1965
1st Child	28.4	27.8	37.0	30.4	29.4	27.6	27.1	27.0	27.9	30.8
2nd or 3rd Child	37.2	38.3	42.6	47.2	44.9	43.8	43.9	43.9	43.7	42.9
4th or higher	34.4	42.0	20.5	22.4	25.8	28.6	29.0	29.1	28.4	26.3

Source: Registrar General, *Vital Statistics*, 1964 and 1965.

The less important age groups 15-19, 35-39, 40-44 and 45-49 also experienced an unmistakable downward trend. The 15-19 year age group is likely to continue having a lower fertility because of the higher proportion of girls remaining in school and the increasing use of more efficient techniques of contraception. In the 35-39, 40-44 and 45-49 year age groups, fertility is expected to continue to fall due to the expected increasing labour force participation rates of those females and the use of more efficient techniques of contraception.

Notwithstanding the present trend of falling fertility, it is unrealistic to assume that it will continue to fall indefinitely or at the same rate. At some point in the future fertility may level off and may even turn up again. The question may be asked:

TABLE 8

FIRST MARRIAGES FOR FEMALES AND FIRST BIRTHS, ONTARIO, 1952-1965

Year	Number of First Marriages for Women	Number of First Births	Increase or Decrease of First Marriages	Increase or Decrease of First Births	Percentage Change of First Marriages	Percentage Change of First Births
1952	40,951	39,861	—	—	—	—
1953	41,403	40,642	452	781	1.1	2.0
1954	40,569	41,910	-834	1,268	-2.0	3.1
1955	40,154	41,537	-415	-373	-1.0	-0.9
1956	41,791	42,167	1,637	376	4.1	1.5
1957	42,292	45,015	501	2,848	1.2	6.8
1958	42,256	44,908	-36	-107	-0.1	-0.2
1959	41,873	45,187	-383	279	-0.9	0.6
1960	41,225	44,907	-648	-280	-1.6	-0.6
1961	39,761	43,449	-1,464	-1,458	-3.6	-3.2
1962	39,689	42,341	- 72	-1,108	-0.2	-2.6
1963	40,409	41,853	720	-488	1.8	-1.2
1964	43,487	42,538	3,078	685	7.6	1.6
1965	45,950	43,564	2,463	1,026	5.7	2.4

Source: Registrar General, *Vital Statistics*, 1952-1965.

TABLE 9

AGE-SPECIFIC FERTILITY RATES FOR ONTARIO, CANADA AND THE UNITED STATES, 1931-1965

Number of Births per 1,000 Women in Each Age Group

	Age 15-19			Age 20-24			Age 25-29			Age 30-34			Age 35-39			Age 40-44			Age 45-49		
	Ont.	Can.	U.S.	Ont.	Can.	U.S.	Ont.	Can.	U.S.	Ont.	Can.	U.S.	Ont.	Can.	U.S.	Ont.	Can.	U.S.	Ont.	Can.	U.S.
1931	35.7	27.7	—	127.5	137.1	135.1	145.2	159.3	—	114.9	136.0	—	74.1	96.8	—	28.8	40.0	—	3.4	5.2	—
1941	36.8	30.7	—	133.3	138.4	208.5	137.3	159.8	121.4	96.3	122.3	79.7	55.9	80.0	42.5	19.1	31.6	13.6	1.7	3.7	1.3
1951	60.1	48.1	84.6	186.4	188.7	248.4	181.8	198.1	171.6	125.2	144.5	106.4	68.1	86.5	52.7	21.0	30.9	14.8	1.9	3.1	1.1
1956	66.9	55.9	94.2	225.8	222.2	254.8	205.7	220.1	193.4	135.6	150.3	115.0	73.2	89.6	59.2	22.6	30.8	15.6	1.6	2.9	1.0
1957	73.0	60.2	96.0	228.7	227.1	252.3	209.0	224.1	198.4	133.3	149.4	116.6	74.2	90.7	59.8	22.6	30.7	15.7	1.9	2.8	1.0
1958	70.6	59.2	91.5	228.8	226.5	254.1	208.3	223.3	196.9	133.0	147.9	114.9	72.8	87.6	57.6	20.9	28.9	15.3	1.7	2.7	0.9
1959	71.7	60.4	90.7	239.5	233.8	258.1	214.7	226.7	198.9	133.3	147.7	114.8	73.0	87.3	57.6	20.8	28.5	15.4	1.7	2.7	0.9
1960	70.9	59.8	89.1	241.2	233.5	253.6	217.1	224.4	197.4	134.7	146.2	112.7	71.7	84.2	56.2	21.6	28.5	15.5	1.5	2.4	0.9
1961	69.5	58.2	88.0	239.8	233.6	243.6	211.6	219.2	197.9	134.2	144.9	113.3	69.8	81.1	55.6	21.9	28.5	15.6	1.6	2.4	0.9
1962	65.3	55.3	81.3	241.8	232.4	231.1	211.6	215.6	191.7	134.0	143.4	108.9	65.5	77.0	52.7	21.8	27.5	14.8	1.4	2.1	0.9
1963	61.8	53.5	76.5	239.6	228.2	219.9	211.0	212.2	185.7	133.6	140.9	106.2	66.0	75.7	51.3	21.0	25.9	14.2	1.2	2.1	0.9
1964	59.1	50.6	—	229.5	216.2	—	207.0	206.0	179.4	129.5	136.0	103.9	64.5	72.1	50.0	20.2	25.0	13.8	1.6	2.1	0.8
1965	58.8	49.5	—	204.4	192.4	—	185.8	185.3	—	115.8	121.0	—	59.4	66.2	—	17.7	21.8	—	1.5	2.0	—

Sources: DBS, *Vital Statistics*, 1964 (pp. 72-3) and 1965 (p. 12).
United Nations, *Demographic Year Book*, 1954 (pp. 418-19) and 1965 (pp. 464-65).

why should fertility turn upward again? Professor Richard A. Easterlin of the University of Pennsylvania offers one possible explanation based on his study of U.S. fertility. Expectations of young couples hold the key to the matter. Since birth rates were low in the 1920's and 1930's there were comparatively few youngsters searching for jobs in the late 1940's and 1950's, and they, brought up in the austere years of the Great Depression and World War II, got better jobs than they expected. They married early and had large families.

> "But after about two decades an 'echo effect' could be discerned. All those postwar babies had grown up and were crowding into the labour market. Their unemployment rates were comparatively high and their income low; at least, they seemed low in relation to standards that had been formed in rather affluent households. Young husbands began to think that large families were too expensive and the result was the lower national birth rate."[19]

Since the age-specific fertility rates of most age groups started declining around the year 1960 — nearly two decades after they started rising — the upward turning point may be reached around 1980, two decades after 1960. This does not mean that age-specific fertility rates will continue to decline at the same rate right up to 1980. Nor does it mean that *crude birth rates* will not start rising before 1980. Considering the large number of persons in the younger age groups, it is likely that an upward turning point in the crude birth rate is just around the corner.

THE RECENT DECLINE: WILL IT CONTINUE?

Why have age-specific fertility rates declined? Is the present trend expected to continue? The following factors may be held responsible for the decline, and for leading experts to believe that it will indeed continue.

1. *Education*

From the discussion of differential fertility it can be seen that women with more education generally have lower fertility. Since the proportion of girls attending schools and universities is expected to rise in the future, this factor will likely exert some downward pressure on fertility.

2. *The Spread of Family Limitation*

Family limitation becomes more common with more education and urbanization. Due to improving systems of communication the idea of family limitation accepted in the higher social circles of society is spreading rapidly to other segments of society by techniques of fashion and social example. This process may be aided by at least four factors: (a) the Ontario Government's instruction that health units across the province be encouraged to provide family planning advice in the future; (b) the expected and impending repeal of the provision in the Canadian Criminal Code barring the dissemination of birth control information; (c) the availability of the 'pill', the oral contraceptive found acceptable even to those with low motivation for family limitation; and (d) the increasingly active role being played in the dissemination of contraceptive knowledge by voluntary organizations such as the Planned Parenthood Association. It has been found that in the United States among white couples with the wife 18 to 39 years old, 81 per cent had used some form of contraception by 1960.[20] The proportion of those using contraceptives in Ontario is likely to reach the same level in the near future, if it has not already reached that level.

3. *Greater Use and Effectiveness of Contraceptives*

The 'pill' has been found to be more effective than the traditional methods of contraception, thereby reducing the number of pregnancies attributable to the failure of contraceptives.

4. *The High and Increasing Cost of Children*

There was, and still is, an increasing emphasis on the 'quality' of children rather than on mere quantity. Consequently, children are becoming increasingly more expensive every year. In the United Kingdom, United States and Sweden, a child's total consumption cost until it reaches productive age is estimated to be about three to four times the annual income of the family.[21] According to an estimate of the Institute of Life Insurance in the United States, it costs the average family in that country $23,000 to raise a child to college age.[22] This has been one of the reasons why fertility has fallen in recent years; it is expected that this factor will continue to exert some effect in the future as well.

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[19]Lawrence A. Mayer, "Why U.S. Population Isn't Exploding", *Fortune* (April 1967), p. 187.

[20]Pascal K. Whelpton, *et al., loc.cit.*, p. 221.

[21]A. Henderson, "The Cost of Children", *Population Studies*, IV: part 3 (December 1950), 276; Louis I. Dublin and Alfred J. Lotka, *The Money Value of a Man*, New York, 1947, p. 57; Alva Myrdal, *Nation and Family*, Harper, 1940, p. 67.

[22]Lawrence A. Mayer, *loc. cit.*, p. 167.

5. *The Housing Problem*

In recent years a serious housing problem has developed in some Ontario cities. This may have prompted some couples, especially the newly married couples living in apartments, not to have children immediately after marriage. In spite of the efforts being made to solve the problem, the situation may not ease immediately – particularly in view of the large number of persons in the younger age groups who will likely start marrying in the near future.

6. *Work Experience of the Wife*

Expected and realized fertility decreases sharply as the work experience of the wife increases. In Ontario, female participation rates are increasing, thus cutting fertility rates. The percentage of the female population (15 years of age and over) in the labour force rose from 17.6 per cent in 1931 to 26.5 per cent in 1951 and to 32.6 per cent in 1961.[23] With increasing education, this rate is expected to rise in the coming years. Moreover, if the relevant recommendations of the Carter Commission on Taxation are accepted, the working mother will receive more tax benefits. The Royal Commission on the Status of Women may recommend more economic incentives for the working mother in order to keep her in the labour force. All these factors will push up the participation rates for women and probably pull down the level of fertility.

7. *The 'Marriage Squeeze'*

Girls normally expect to marry men two to three years older than themselves. Since the number of male 'birth cohorts'[24] of 1943-45 is smaller than the number of females born in 1946-48, there is a marriage squeeze now. However, this may be only temporary.

8. *Scarcity of Suitable Job Opportunities*

Although a continuation of the favourable climate for economic growth in Ontario is generally expected, the large number of young persons entering the labour force in the coming few years may produce some dissatisfaction among some youths unable to get immediately the type of jobs they want. This might postpone marriage as well as the birth of children after marriage.

9. *More Liberal Abortion Laws*

It is to be expected that abortion laws will become more liberal in the future and that abortions will be permissible for other than strictly therapeutic reasons.

Factors Promoting Increasing Fertility

On the other hand, as observed during the discussion of differential fertility according to religion and ethnic group, there is the possibility that a future change in the composition of the population may spur fertility. Firstly, Catholics in North America, as mentioned earlier, have a higher fertility than non-Catholics. With the Catholic population of Ontario expected to rise in the future, this would have the effect of stimulating fertility (unless there is a change in Catholic fertility resulting from new developments regarding the use of contraceptives).

Secondly, Ontario's population has a large percentage of immigrants; their number, as well as percentage of total population, will likely rise in the future. Many studies in the United States have shown that foreign-born women have had a higher level of fertility than native-born women. While the religious affiliation of the immigrants is important, it does not provide a complete answer. It is probable that most immigrants, once having settled in Canada, feel that they have attained a higher standard of living than they had ever anticipated. Considering their income adequate, they expect and get more children. Thirdly, as already noted, fertility in Ontario was found to be higher for certain ethnic groups than for others. Fertility was higher for most of the non-British ethnic groups – and their proportion of the total population has been rising. In view of the more liberal immigration laws recently announced by the Federal Minister of Manpower and Immigration, this could lead to rising fertility. These factors may not be able to stop the fertility decline in the next few years, but they may restrain the rate of fertility decline.

Conclusion

Future economic conditions in Ontario could be significantly affected by the demographic variable, fertility. Though the crude birth rate has been falling in Ontario the last few years, the low age at marriage, high marriage rates and high proportion of persons in the younger age groups all indicate that the present trend of a falling crude birth rate will likely be halted and reversed in the near future. However, an examination of differential fertility as well as age-specific fertility shows that age-specific fertility rates in Ontario may continue to decline before they start levelling off or turning up again.

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[23]DBS, *1961 Census of Canada*, Bulletin 3.1-1, pp. 1-4.

[24]Persons born in the same year.

ONTARIO ECONOMIC INDICATORS - SEASONALLY ADJUSTED

(*Figures for Canada)

		1966											1967			
LEADING INDICATORS		Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
Average Weekly Hours Worked in Manufacturing	Number	41.4	41.1	40.9	40.5	40.4	40.6	40.9	40.6	40.8	40.5	40.7				
New Dwelling Unit Starts	Number	4,519	4,400	3,757	4,287	3,619	3,460	3,233	3,756	3,903	3,616	3,101				
New Order in Manufacturing*	$ Million	3,077	3,071	3,082	3,111	3,074	3,046	3,152	3,076	3,114	3,125	3,378				
Housing Contracts	$ Million	48.9	72.4	48.6	52.4	42.7	51.5	58.3	52.4	80.5	40.8	77.4	50.0	68.3	48.9	60.1
Business, Industrial and Engineering Contracts	$ Million	146.6	213.6	114.4	131.3	103.1	114.8	148.2	120.7	128.7	113.2	195.9	122.8	121.0	160.6	104.4
Money Supply*	$ Million	19,879	20,014	20,169	20,176	20,118	20,353	20,632	20,812	21,044	21,169	21,161	21,312	21,679	21,930	
T.S.E. Industrial Index	1956=100	169.1	166.4	164.1	158.9	162.2	162.5	150.0	144.0	147.2	148.1	147.9	153.3	159.6	163.5	163.4
COINCIDENTAL AND LAGGING INDICATORS																
New Dwelling Unit Completions	Number	4,588	5,142	4,949	4,444	7,501	7,371	6,036	3,779	2,822	4,680	5,875				
Average Hourly Earnings in Manufacturing	$	2.32	2.33	2.33	2.33	2.35	2.37	2.39	2.41	2.43	2.42	2.41				
Gross National Product*	$ Million		56,392			57,620			57,968			59,144				
Cheques Cashed in Clearing Centres	$ Million	4,485	4,513	4,537	4,417	4,485	4,568	4,516	4,756	4,845	4,723	4,907	5,124	4,921		
Retail Trade	$ Million	715	780	646	647	701	696	718	736	718	727	720	714			
Labour Force	000's	2,674	2,685	2,714	2,707	2,721	2,730	2,754	2,751	2,759	2,738	2,746	2,773	2,780	2,817	2,841
Employed	000's	2,613	2,625	2,658	2,639	2,648	2,647	2,669	2,670	2,685	2,665	2,680	2,698	2,705	2,733	2,750
Unemployed	000's	61	60	56	68	73	83	85	81	74	73	66	75	75	84	91
Unemployed as % of Labour Force	%	2.3	2.2	2.1	2.5	2.7	3.0	3.1	2.9	2.7	2.7	2.4	2.7	2.7	3.0	3.2
Wages and Salaries	$ Million	937	936	948	951	964	976	980	989	1,002	1,010	1,018	1,022	1,029		
Industrial Employment Index	1961=100	121.3	121.8	122.8	123.4	124.5	122.6	124.2	123.7	124.4	125.0	125.0	126.4	125.8		
Total Industrial Production*	1949=100	271.5	273.8	174.1	274.0	273.3	270.8	274.2	275.7	278.3	279.8	279.2	278.5	279.3		
Total Manufacturing		244.6	246.8	247.2	245.5	245.3	244.8	246.1	248.1	249.6	250.0	250.4	247.4	248.8		
Non-Durables		236.8	240.4	240.3	239.7	240.2	240.2	240.7	239.3	241.4	242.3	245.2	241.8	242.1		
Durables		253.7	254.3	255.2	252.3	251.3	250.2	252.4	258.5	259.2	259.0	256.5	253.9	256.6		
Mining		387.1	390.4	393.5	397.8	391.5	376.3	389.6	384.4	401.6	406.7	399.2	409.8	399.9		
Electric Power and Gas Utilities		490.7	492.3	485.5	503.5	504.8	495.6	513.7	519.3	511.4	525.4	521.2	537.6	548.6		
Primary Energy Demand (Annual Rate)	BKWH	46.27	46.47	47.16	48.57	48.57	47.18	48.45	47.92	48.67	49.91	50.83	49.65	51.25	50.41	
ECONOMIC INDICATORS NOT SEASONALLY ADJUSTED																
Domestic Exports*	$ Million	674.5	781.6	753.2	910.0	849.8	833.2	925.1	888.6	878.6	954.1	899.1	926.5			
Imports for Consumption*	$ Million	667.7	830.4	774.7	913.9	901.1	736.7	808.3	803.2	919.6	943.0	861.5	893.9	766.5	862.6	
Foreign Exchange Reserves*	US $ Million	2,548	2,510	2,469	2,412	2,342	2,315	2,281	2,244	2,223	2,242	2,236	2,238	2,194	2,203	
Price Index of Industrial Materials*	1935-39=100	268.1	264.6	264.7	264.2	263.0	262.4	260.6	258.9	256.3	255.6	254.6	253.5	253.8	252.2	
Business Failures	Number	79	80	75	73	90	56	58	63	56	54	57	n.a.	n.a.	59	
Business Failures - Liabilities	$ Million	7.0	4.7	10.0	5.5	6.5	2.5	7.9	2.9	2.0	2.7	4.7	n.a.	n.a.	2.7	

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Hon. Stanley J. Randall, Minister

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CONTENTS

THE ONTARIO ECONOMY

Production

Industrial production, somewhat unsettled in recent months, has now begun to make more satisfactory advances. During May and June, for instance, motor vehicle production was up 13.4 per cent and 12.0 per cent respectively from the previous year. Despite this the total number of motor vehicles produced in 1967 – 527,070 at the end of June – was down 1.8 per cent from 1966.

Steel ingot production in June was 791,000 tons, a decline of 7.2 per cent from June 1966. For the first six months production was 4.8 million tons, down 5.6 per cent from the 5.1 million recorded in the January-to-June period of 1966.

Ontario's manufacturing shipments in May (the latest month available) were valued at $1,744.8 million, an increase of 3.5 per cent from May 1966. This brought the five-month total to $8,105.6 million, 1.7 per cent more than in 1966. This gain was exactly the same as the gain for Canada as a whole.

The seasonally adjusted Index of Industrial Production (based on 1949 = 100) advanced to 280.7 in April, after having slipped to a 1967 low of 276.9 in March. This 1.4 per cent increase from March to April reflected increases in all the major components of the Index. Leading all groups was mining, with a 1.8 per cent increase – the result of substantial advances in the production of copper, nickel and petroleum. Manufacturing as a group rose to 249.6, a one-month increase of 1.4 per cent. Non-durables were up 1.7 per cent due to increases in the production of brewery and distillery products, rubber products and textiles. Clothing, petroleum and coal products, and chemicals and allied products declined by a few percentage points. Durable manufactures advanced 1.1 per cent, the result of significant gains in wood products and non-metallic mineral products. Iron and steel products, the only durables sub-group to fall, dropped by one per cent. Electric power and gas utilities advanced 0.5 per cent.

Looking at the gains from one year ago, the Index has risen 3.5 per cent. The electric power and gas utilities group has shown the greatest gain, advancing 11.4 per cent. Mining is next with a 3.3 per cent gain, followed by a 2.5 per cent gain in manufacturing (3.3 per cent in non-durables, 1.6 per cent in durables). Non-durables owed much of its increase to advances in foods and beverages, tobacco, textiles and printing, publishing and allied industries. The main durables groups to advance were electrical apparatus and supplies, wood products and non-ferrous metal products.

Construction

Ontario's construction activity in May and June, expressed in terms of contracts awarded, was up over one third from the corresponding months last year. In June the value of contract awards was $240.5 million, compared with $179.4 million in June 1966. All types of construction improved, except for industrial construction which was down 58.1 per cent. Engineering contracts showed the greatest advance, climbing to $64.7 million, up 148 per cent from 1966. Residential construction awards totalled $76.8 million, an increase of 38 per cent.

In terms of actual housing construction, the number of dwelling unit starts in Ontario centres of 10,000 population and over was 8,054 in June, up 58.5 per cent from 12 months earlier. This was down slightly from the near-record month of May 1967, when starts numbered 8,213. The cumulative total for the first six months of 1967 was 26,141, 25 per cent higher than the same period last year. Of the larger centres, St. Catharines, Toronto, London and Kitchener had fairly substantial cumulative increases, ranging from 43 per cent for St. Catharines to 22 per cent for Kitchener. Ottawa is the one major centre where starts have been down; by the end of 1967 they were down over 23 per cent.

Dwelling unit completions in Ontario centres of 10,000 population and over were down over 16 per cent for the six-month period of 1967, in large measure due to a 50 per cent decline for the month of June. All larger centres in the province contributed to this decline; in Toronto, six-month completions were down 2.1 per cent, while in Ottawa they were down over 45 per cent.

The number of units under construction was also down at the end of the first half of 1967. At June 30, units under construction numbered 39,398, a decline of 16.8 per cent from the 47,352 units under construction one year earlier.

Employment

The seasonally adjusted labour force in the province rose to 2,848,000 in June, while the number of indi-

viduals employed dropped slightly to 2,749,000. As a result the rate of unemployment rose from 3.1 per cent in May to 3.5 per cent in June. This brought the six-month cumulative average to 3.0 per cent for 1967, higher than the 2.4 per cent rate registered in 1966.

Statistics for all of Canada indicate that unemployment rose from 4.3 per cent in May to 4.4 per cent in June; in June of 1966 this rate was 3.6 per cent. For the six-month period, unemployment was 4.0 per cent as compared with 3.5 per cent in 1966.

Retail Trade

Generally good advances in all types of retail trade in Ontario produced an estimated value of retail sales of $840.5 million in June — an increase of 12.2 per cent over June 1966. Leading all other groups were fuel dealers, with an advance of 24.6 per cent. They were followed by jewellery stores (up 20.8 per cent), furniture, appliance and radio stores (up 19.6 per cent) and variety stores (up 17.9 per cent). Grocery stores and motor vehicle dealers, two of the largest groups, were both up about 12 per cent.

On a six-month cumulative basis Ontario's retail trade rose 5.1 per cent between 1966 and 1967. By the end of June it was valued at $4,199 million. Motor vehicle dealers were the only group to decline (0.7 per cent). All others increased, ranging from 13.1 per cent for variety stores to 2.9 per cent for men's clothing and 2.8 per cent for furniture, appliance and radio dealers.

For Canada as a whole, June statistics reveal a 10.7 per cent increase from 1966. The six month total of $11,080.4 million was 6.5 per cent higher than last year.

Further Information on Kennedy Round Trade Negotiations

After three years of hard bargaining, the Kennedy Round of GATT trade negotiations were concluded on June 30, 1967. Results for the 50 participating countries should be favourable: world trade of $40 billion will be affected and tariffs will be reduced an average of 33 per cent on all products.

For Canada, the agreement should open new areas for trade: in current trade terms over $3.0 billion of Canadian exports (including wheat) stand to benefit. Canada will have easier access for exported goods and will also be assured of new markets for secondary manufactures. In turn, Canada is cutting duties on $2.5 billion of imports.

The agreements will give Canada new opportunities in the United States market. The U.S. will reduce or eliminate duties on Canadian goods worth $1.92 billion in 1966 terms. Among the industries most favourably affected are: agriculture, receiving reductions on $95 million of exports; fisheries, eliminating duties on products valued at $91.04 million in 1966; forestry, eliminating duties or reducing them by 50 per cent on Canadian exports worth $383.9 million; chemicals, reducing duties on goods worth $95 million; paper and paper products, receiving 50 per cent reduction; and manufactured goods, getting 50 per cent tariff reductions on goods worth $700 million.

The tariff reductions in manufactured goods will enable Canadian manufacturers to produce more efficiently on longer production runs since larger markets will be made available to them.

Canada will reduce tariffs on more than 1,500 items. The rates of duty on final manufactures will generally be about 17½ to 20 per cent and on production machinery and other producer's equipment 15 per cent. Duties on numerous tropical products will be reduced or removed entirely to help the trade of developing countries.

Since wheat exports form 10 per cent of Canada's annual exports, the Kennedy Round Cereals Agreement is important for Canada. The Cereals Agreement settled on a higher price range for wheat and labelled 10 grades of wheat with maximum and minimum prices. The new price range has a 21 per cent bushel increase in both the minimum and maximum price for No. 1 Northern over the current International Wheat Agreement price range which expires on July 31. A multilateral aid program to provide 4.5 million metric tons of grain to the needy countries was also signed by 17 countries. Grain-importing European countries and Japan agreed to pay their share in cash or kind so that the major wheat producing countries — Canada, United States, Argentina and Australia — would not have the sole responsibility of supplying food aid.

The new anti-dumping code to come into effect July 1, 1968 should prevent the arbitrary use of anti-dumping duties by one country against another. Before duties can be applied, trading nations will have to prove: (1) that the product is being dumped; and (2) that the domestic industry is being injured by the lower priced imports.

The tariff changes will be staggered between January 1, 1968 to January 1, 1972 so that industries have sufficient time to adjust to international competition. Canada and the U.S. will introduce one-fifth of the reductions on January 1 each year until 1972. Japan and the European countries are expected to start on July 1, 1970, putting into effect two-fifths of the tariff reductions.

SOYBEANS IN ONTARIO: Production, Utilization and Prospects

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Though it may not be widely known, the soybean is today an important agricultural commodity, frequently used in the production of both vegetable oil and animal feed. Yet perhaps even more significant to the world as a whole is its potential use as a high protein food for human consumption. As feeding the world becomes a more and more serious problem, attention will have to be focused on new sources of food. Soybeans are such a potential food source.

The soybean is the seed of a leguminous plant indigenous to eastern Asia. Though it is grown mainly in areas where the summer is hot and damp, it is in fact adaptable to a wide variety of climatic conditions, including those of parts of Canada. Virtually all soybean production in Canada is located in a few counties in southwestern Ontario. Though this represents but a small fraction of world production – the United States and China between them produce over 90 per cent of the world supply of soybeans – this Ontario industry is important. For one thing, it has been growing quite impressively during the past two decades. Acreage has risen from 59,000 in 1946 to 279,000 in 1966; and the value of production during the same period has climbed from $2.4 million to $26.8 million.

What really makes this industry worthy of close examination is its enormous future potential. Today Canada is able to meet only one third of her soybean requirements, relying on imports for the remainder. With the number of potential uses for soybeans expanding it becomes all the more important to examine the possibility of stepping up our own domestic production. Among other things, this article will attempt to look at the prospects for sizable increases in production.

Soybeans: An Important Source of Vegetable Oil

The main factor behind the growing demand for and production of soybeans has been the rising demand for vegetable oil. As the major source of edible vegetable oil – in 1965 soybean oil represented 27 per cent of the world's total edible vegetable oil production[1] – soybeans have enjoyed a growing demand as the demand for vegetable oil has risen. While vegetable oil has been in common use for many centuries, it gained importance only after the discovery of hydrogenation, a hardening process, at the end of the 19th century. This enabled the margarine industry to substitute cheaper raw materials for the animal fats it originally used. The effect was to further improve the already favourable price position of margarine with respect to butter. It also increased the demand for oil and oilseed, including that of the soybean. In Canada at present about half of the oil used in margarine is derived from soybeans (see table, page 4).

While soybean oil is very important for its use in margarine, it is put to other uses as well. Together with cottonseed, groundnut and palm oils, soybean oil is one of the chief vegetable oil constituents of compound cooking fat, as can be seen from the lower half of the table on page 4. It is also used in the production of soap. To a lesser extent the oil serves as a drying agent in paints, varnishes and printing ink, although drying mixes using soybean oil are usually of an inferior quality. In addition it has been put to a wide range of industrial uses.

USE OF SOYBEAN OILS, BY INDUSTRIES IN CANADA, 1963

Industry	*1963* *Million lbs.*	*%*
Soap and Cleaning Compounds[1]	61.9	34.2
Miscellaneous Foods	54.5	30.1
Slaughtering and Meat Packing	37.9	21.0
Paint and Varnish	12.7	7.0
Plastic and Synthetics	9.1	5.0
Fish Products	3.1	1.7
Other Chemical Industries	1.7	1.0
Total	180.9	100.0

[1]Includes integrated industries manufacturing margarine and shortening (which represent an estimated 80 to 85 per cent of the quantities under this item).
Source: DBS, *Vegetable Oils Industry.*

[1]Other significant sources of vegetable oil were peanut (18 per cent) sunflower seed (17 per cent), cottonseed (16 per cent), rapeseed (9 per cent), olive oil (6 per cent) and sesame seed, corn oil and safflower oil, ranging from four per cent to one per cent.

CANADIAN CONSUMPTION OF OILS AND FATS USED IN MARGARINE AND SHORTENING,[1] 1961-62 — 1964-65

	Crop Year							
	1961-62		*1962-63*		*1963-64*		*1964-65*	
Margarine	*000 lbs.*	*%*	*000 lbs.*	*%*	*000 lbs.*	*%*	*000 lbs.*	*%*
Vegetable Oils:	100,437	66.5	78,302	55.2	89,098	65.2	100,016	73.3
Soybean	57,195	37.9	48,514	34.2	63,928	46.7	73,479	53.8
Palm[2]	15,680	10.4	8,694	6.1	5,799	4.3	5,988	4.4
Cottonseed	4,117	2.7	3,197	2.3	3,158	2.3	3,747	2.8
Cocoanut	14,963	9.9	7,353	5.2	2,117	1.6	188	0.1
Other[2,4]	8,482	5.6	10,544	7.4	14,096	10.3	16,614	12.2
Marine and Fish Oils	43,456	28.9	60,482	42.5	43,979	32.2	28,715	21.0
Animal Oils:	6,982	4.6	3,273	2.3	3,520	2.6	7,661	5.7
Lard	6,978	4.6	3,241	2.3	3,504	2.6	7,657	5.7
Edible Tallow	[3]	—	9	—	16	—	4	—
Other	4	—	23	—	—	—	—	—
Grand Total	150,875	100.0	142,057	100.0	136,597	100.0	136,392	100.0
Shortening								
Vegetable Oils:	95,338	54.6	101,497	55.8	106,114	56.5	105,183	55.0
Soybean	49,696	28.4	52,698	29.0	61,344	32.7	58,405	30.4
Cottonseed	7,818	4.5	6,831	3.8	8,226	4.4	11,000	5.8
Palm[2]	19,878	11.4	15,129	8.3	11,504	6.1	9,310	4.9
Cocoanut	2,972	1.7	2,223	1.2	2,524	1.3	2,804	1.5
Other[2,4]	14,974	8.6	24,616	13.5	22,516	12.0	23,664	12.4
Marine and Fish Oils	19,248	11.0	24,336	13.4	14,820	7.9	13,812	7.2
Animal Oils:	59,822	34.4	56,166	30.8	66,783	35.6	72,396	37.8
Edible Tallow	32,209	18.5	30,739	16.9	37,822	20.2	44,833	23.4
Lard	24,913	14.3	21,989	12.0	27,257	14.5	26,253	13.7
Other	2,700	1.6	3,438	1.9	1,704	0.9	1,310	0.7
Grand Total	174,408	100.0	181,999	100.0	187,717	100.0	191,391	100.0

[1]All figures based on refined oil.
[2]Palm kernel included to December 1962; from January 1963 included with "Other".
[3]Included with "Other".
[4]Includes rapeseed oil.

Source: Dominion Bureau of Statistics.

Other Uses of the Soybean

When most of the oil of the soybean has been extracted[2] by crushing the bean, there is left a residue which has further uses. Its principal use is in the manufacture of soybean meal for animal feed,[3] either alone or compounded with other elements. The residue may also be converted into flour or paste for human consumption.

Alternatively, the bean can be made into flour, sauce or soya milk without separating any of the oil at all.

Soybean oil cake and meal are important for their use as high protein animal feeds. Their higher protein content gives them an advantage over linseed oil and meal, another source of animal feed. According to feeding manuals, the digestible protein content of soybean oil cake and meal is about 40 per cent, while that of linseed oil cake and meal is only about 30 per cent. Meat meal and meat scrap, other sources of protein feed, contain 46 per cent digestible protein.

[2]The oil content of soybeans is relatively low, ranging from 13 to 20 per cent by weight. The commercial extraction rate usually varies from 14 to 18 per cent.

[3]The demand for high protein feed has now attained such dimensions in the United States and western Europe that soybeans are as much in demand in these countries for cake and meal as for oil. In Canada in recent years soybean oil meal has represented about half of the total high protein feed supply.

The following table relating to the supply of high protein feeds in Canada gives some indication of the overwhelming position of soybean oil meal:

ESTIMATE OF HIGH PROTEIN FEED SUPPLY IN CANADA, 1963-1965

	1963		1964		1965	
	000 Tons	%	000 Tons	%	000 Tons	%
Soybean Oil Meal	443	51.9	452	52.0	455	49.9
Brewers' and Distillers' Dried Grains and Malt Sprouts	109	12.8	109	12.5	109	12.0
Rapeseed Oil Meal	23	2.7	26	3.0	36	3.9
Linseed Oil Meal	29	3.4	38	4.4	25	2.7
Other Oil Meals	56	6.6	60	6.9	61	6.7
Total Vegetable Protein	660	77.4	684	78.8	686	75.2
Packinghouse By-Products	137	16.0	140	16.0	163	17.9
Fishmeal	38	4.4	26	3.0	44	4.8
Skim Milk, Buttermilk	19	2.2	19	2.2	19	2.1
Total Animal Protein	194	22.6	185	21.2	226	24.8
Total Protein Supplies	854	100.0	869	100.0	912	100.0

Source: DBS, *Coarse Grain Quarterly.*

It is quite possible that soybeans, as a high protein food, may be used for human consumption as a meat substitute in the future. In the United States today there are some plants, operating on an experimental basis, producing 'bacon', 'chicken soup' and even 'steaks' made of soybeans. That which is experimental today could very well be a widely used food of tomorrow, especially considering population pressures and the increasing need for low-priced high protein food products.

Canadian Production

As already mentioned, soybean production in Canada represents only a small portion of total world production. The United States is by far the largest producer, accounting for approximately 65 per cent (measured in bushels); China ranks second, producing just under 30 per cent. Canada, Brazil and Japan follow with obviously small shares of total world production.

Two economic regions in Ontario produce almost all of Canada's soybeans. The following table shows the distribution of soybean acreage for 1951, 1961 and 1966.

Despite the fact that Ontario's soybean acreage has nearly doubled in 15 years, the supply has never come close to meeting domestic requirements. Both the soybean oil and meal producing industries make

SOYBEAN ACREAGE IN ONTARIO, 1951, 1961 AND 1966

	1951	1961	1966	% of Total Ontario (1966)
	Number of Acres			
Lake Erie Region	17,814	24,712	37,523	13.5
Elgin	11,133	17,809	25,093	9.0
Middlesex	5,017	6,352	10,607	3.8
Norfolk	1,233	500	1,593	0.6
Oxford	431	51	230	0.1
Lake St.Clair Region	133,444	185,413	237,765	85.3
Essex	62,785	63,605	83,392	29.9
Kent	60,320	84,168	96,184	34.5
Lambton	10,339	37,640	58,189	20.9
Other	3,715	1,720	3,561	1.2
TOTAL ONTARIO	154,973	211,845	278,849	100.0

heavy demands upon the supply of soybeans. This problem is compounded by the fact that Canada exports soybeans (in crude form) equivalent to about half of her domestic production.[4] Consequently the total requirements have been met by importing soybeans from the United States. Imports, in fact, make up over two thirds of the total Canadian supply.

SOYBEANS IN CANADA

	1961-62		1962-63		1963-64		1964-65	
	Million Bu.	%	Million Bu.	%	Million Bu.	%	Million Bu.	%
Production	6.6	33.2	6.6	31.0	5.0	24.2	7.0	30.6
Imports	13.2	66.8	14.7	69.0	15.7	75.8	15.8	69.4
Total Supply	20.0	100.0	21.3	100.0	20.7	100.0	22.8	100.0

The demand for soybeans in Canada can be appreciated by observing the extensive use of this particular product for oil and meal production. For example, from 65 to 70 per cent of Canada's vegetable oil production involves the use of soybeans. Oil meal production uses soybeans to an even greater extent – approximately 85 per cent (see top left table, page 6).

Canada at present relies heavily upon imported soybeans in order to produce – and export – soybean oil and soybean meal. In the 1964-65 crop year, Canada grew approximately seven million bushels of soybeans and exported 3.2 million bushels. This left less than four million bushels of domestic beans for soybean oil production – enough to produce only one fifth of the total domestic oil production of 201 million pounds. The remaining four fifths were produced from imported beans.

[4]Almost all exported soybeans go to Britain, with Denmark and Germany receiving small additional shares.

CRUSHINGS OF VEGETABLE OIL SEEDS AND PRODUCTION OF OIL AND OIL MEAL IN CANADA, 1961-62 TO 1964-65

	Crop Year							
	1961-62		1962-63		1963-64		1964-65	
	Million lbs.	%	Million lbs.	%	Million lbs.	%	Million lbs.	%
Crushings	1,225	100.0	1,298	100.0	1,363	100.0	1,465	100.0
Soybeans	1,015	82.8	1,072	82.6	1,116	81.9	1,172	80.0
Flaxseed	138	11.3	142	10.9	154	11.3	162	11.0
Other[1]	72	5.9	84	6.5	93	6.8	131	9.0
Oil Production	251	100.0	265	100.0	281	100.0	307	100.0
Soybeans	177	70.5	184	69.4	193	68.7	201	65.5
Flaxseed	48	19.1	49	18.5	53	18.9	56	18.2
Other[1]	26	10.4	32	12.1	35	12.5	50	16.3
Oil Meal Production	921	100.0	972	100.0	1,030	100.0	1,104	100.0
Soybeans	792	86.0	837	86.1	883	85.7	930	84.3
Flaxseed	86	9.3	86	8.9	96	9.3	102	9.2
Other[1]	43	4.7	49	5.0	51	5.0	72	6.5

[1] Includes rapeseed and sunflower seed.

Source: Dominion Bureau of Statistics.

Imports and Exports of Soybean Products

Canada must obviously import a substantial amount of soybeans in order to meet both domestic and export requirements. Yet despite this she has been unable to produce enough oil and meal to meet domestic and export market requirements for these two products. As a result both of these commodities are imported as well. Fortunately the trade balance in each of these two commodities has been fairly close, and has not even approached the heavy import balance in soybean trade. The following tables show the exact relationship between the supply and disposition of both soybean oil and meal.

SOYBEAN OILS: SUPPLY AND DISPOSITION

	1961-62		1962-63		1963-64		1964-65	
	Million lbs.	%	Million lbs.	%	Million lbs.	%	Million lbs.	%
Production	177	91.2	184	87.2	193	84.9	201	85.7
Imports	17	8.8	27	12.8	34	15.1	34	14.3
Total Supply	194	100.0	211	100.0	227	100.0	235	100.0
Exports	49	25.3	51	24.2	28	12.4	33	14.1
Apparent Disappearance	145	74.7	160	75.8	203	87.6	202	85.9

SOYBEAN MEAL: SUPPLY AND DISPOSITION

	1961-62		1962-63		1963-64		1964-65	
	Million lbs.	%	Million lbs.	%	Million lbs.	%	Million lbs.	%
Production	792	61.6	837	59.7	883	68.4	930	64.0
Imports	494	38.4	565	40.3	407	31.6	522	36.0
Total Supply	1,286	100.0	1,402	100.0	1,290	100.0	1,452	100.0
Exports	384	29.9	466	33.2	422	32.7	534	36.8
Apparent Disappearance	902	70.1	936	66.8	868	67.3	918	63.2

Trade statistics for the calendar years 1964 and 1965, expressed in dollars, show the extent to which the import trade balance in soybeans adversely affects the overall trade balance in soybeans and soybean products.

TRADE IN CANADIAN SOYBEANS AND SOYBEAN PRODUCTS ($ Million)

	1964			1965		
	Exports	Imports	Balance	Exports	Imports	Balance
Soybeans	5.8	52.9	—47.1	10.0	46.3	—36.3
Soybean Oil	3.0	3.8	— 0.8	4.7	4.1	+ 0.6
Soybean Meal	21.1	17.4	+ 3.7	24.3	20.7	+ 3.6
Total	29.9	74.1	—44.2	39.0	71.1	—32.1

One fact becomes quite apparent: Canada, if it is possible, should increase her own production if she wishes to improve her trade position in these products.

Additional Acreage of Soybeans Required for Import-Substitution

In 1964-65, over 15.8 million bushels of soybeans were imported into Canada from the United States. Assuming an average yield of 30 bushels per acre, close to 528,000 additional acres would be necessary to substitute imported soybeans with domestic production. In the same period total imports of soybean oil amounted to 33.7 million pounds; assuming an 18 per cent extraction rate (a highly favourable one) this would correspond to 3.1 million bushels of soybeans, the production of which would require 100,000 acres of soybeans.

If export levels remain the same, total production including import substitution would require close to 630,000 acres of soybeans *more* than presently exist in Ontario. If exports were eliminated, about 420,000 additional acres would be necessary. As these estimates are based on our present population, it is obvious that an even larger total area will be required in the future to satisfy the demand of an increasing population.

SOYBEAN VARIETIES AND TECHNIQUES OF PRODUCTION

Soybean Varieties

There are a number of soybean varieties available to meet the maturity requirements of different areas in Ontario. The choice of proper varieties is very important; without the proper variety the chance of obtaining good results in growing soybeans will be reduced. The use of a variety that, for example, matures too late for an area may result in a serious reduction in yield because of frost kill.

Soybean varieties are distinguished by the number of heat units required to mature them. While the earliest variety needs the fewest heat units, it produces lower yields than later varieties.

Heat units are calculated on the basis of temperatures above 50°F in daytime and 40°F at night during the growing season. The heat unit rating used for locations in Southern Ontario indicates the sum of heat units between the planting date and the autumn date when killing frost can be expected (one year in ten).

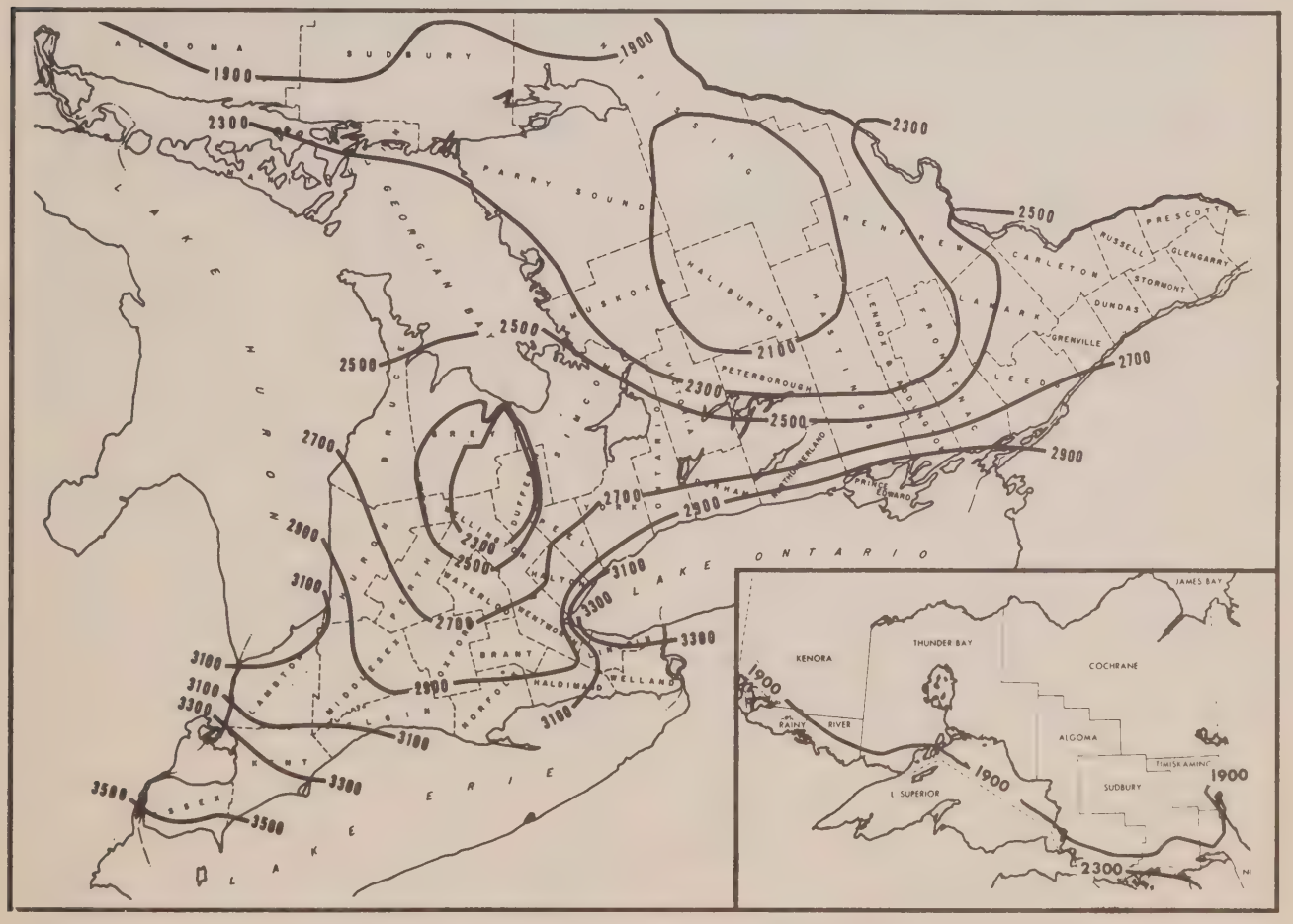
Full-season varieties should be planted the third week of May to assure uniform maturity and high quality beans, while the planting of short and mid-season varieties should be carried out at the end of May to obtain maximum yields. Experiments indicate that a one-week delay in planting delays the date of maturity of short-season varieties by five days. This increases the danger of frost damage in the lower heat unit areas of Eastern Ontario, where inadequate soil drainage may set back the date of planting.

At present the major soybean varieties are:

1. *Short-season varieties*
   (a) Crest — 2,500 heat-unit grading
   (b) Merit — 2,600 heat-unit grading
2. *Mid-season varieties*
   (a) Hardome — 2,700 heat-unit grading
   (b) Chippewa — 2,800 heat-unit grading
3. *Full-season varieties*
   (a) Harosoy 63 — 3,100 heat-unit grading
   (b) Harman — 3,300 heat-unit grading

Techniques of Production

The success of soybean growing depends largely on one important factor: weed control. Soybeans will not compete with weeds, especially in their early stage of development, and without proper care yields may be disappointing. At present, weed control in soybean production is mainly effected by mechanical devices — rotary hoes and cultivators. The lack of efficient and economic chemical herbi-



AVAILABLE UNITS OF HEAT

cides — in great supply in corn production — represents both a major difficulty in the expansion of the soybean area and a major challenge for research scientists.

Soybeans fit well into any crop rotation. They leave a field in excellent physical condition, with a minimum of preparation required for the crop following. Tests at many experimental stations have shown that small grains yield better on soybean stubble fields than on fields previously used for corn or other small grains. Soybeans yield well following a heavily fertilized crop such as corn or tomatoes. While they do well on land used for that crop the previous year, successive growing of the crop for three or four years is not a good rotation practice as it increases the possibilities of disease. Early varieties may be used to permit planting of fall wheat after soybean harvesting. Winter wheat, following a soybean crop, cannot immediately make use of the nitrogen residue from the soybeans. Therefore, a fertilizer containing nitrogen to break down the residue has to be applied before or when planting the wheat.

It appears, therefore, that the place of soybeans in rotation can be considered only in terms of the whole rotation. Whether they will precede or follow corn or other grains depends entirely on the growers' preference.[5]

ECONOMIC ASPECTS OF SOYBEAN PRODUCTION

Cost of Production and Return

The Soil and Crop Improvement Association of Elgin County conducted cost-return surveys for the period 1961 to 1965 for a number of crops (see table, top right).

It should be noted that no one crop enterprise is most profitable for all farmers, because each farmer has varying quantities of resources such as labour, machinery, capital and land. Moreover, managerial skills differ among farmers. These condition the farmer's ability to combine available resources to obtain maximum net returns. In spite of these varying conditions, there are certain crop relationships and production practices that can be used to assist farmers in their choice of a crop enterprise.

Varying yields and prices from 1961 to 1965 influenced gross returns and net returns to management, and the competitive position of the crops under study (see table at right).

[5]From *Soybeans in Canada* by Ivan M. Roberts, published by Victory Soya Mills Limited, 1966.

COMPARISON OF PRODUCTION COSTS AND RETURNS FOR CROPS STUDIED, ELGIN COUNTY, 1961 TO 1965

	Soybeans	Grain Corn	Winter Wheat	Oats
Years of Study	1961-65	1961-65	1962-64	1961-63
Number of Records	44	73	28	31
Yield per Acre in Bushels	30	88	40	65
Yield per Acre in Pounds	1,800	4,928	2,400	2,210
Per Acre		Dollars		
Gross Returns	79	98	67	41
Measurable Costs	40	62	42	37
Net Returns to Risk and Management	39	36	25	4
Per Bushel				
Gross Returns	2.64	1.00	1.67	.64
Measurable Costs	1.35	.63	1.06	.57
Net Returns to Risk and Management	1.29	.37	.61	.07
Per Ton				
Measurable Costs	44.40	25.20	35.20	33.40
Net Returns to Risk and Management per Dollars of Cost	.98	.58	.60	.11
Net Returns to Risk and Management as a Percentage of Crop Value	49%	37%	37%	10%
Labour Hours per Acre[1]	7.4 hrs.	8.5 hrs.	7.0 hrs.	7.7 hrs.

[1]Includes farmer's own labour plus an estimate for all custom operations.

YIELDS, PRICES AND RETURNS FOR SOYBEANS, GRAIN CORN, WINTER WHEAT AND OATS, ELGIN COUNTY, 1961 TO 1965

	Yield Bu./Acre	Price $ Per Bu.	Gross Return $/Acre	Return to Management $/Acre
1961				
Soybeans	40	2.50	100	51[1]
Grain Corn	91	0.96	87	28
Winter Wheat	—	—	—	—
Oats	55	0.69	38	5
1962				
Soybeans	33	2.42	80	42[1]
Grain Corn	110	0.88	97	36
Winter Wheat	37	1.68	62	20
Oats	69	0.59	41	3
1963				
Soybeans	29	2.93	85	48[1]
Grain Corn	89	1.06	94	32
Winter Wheat	50	1.68	84	43
Oats	68	0.65	44	5
1964				
Soybeans	30	2.77	83	40[1]
Grain Corn	107	0.96	103	39
Winter Wheat	33	1.67	55	12
Oats	—	—	—	—
1965				
Soybeans	24	2.54	61	21
Grain Corn	100	1.17	117	51
Winter Wheat	—	—	—	—
Oats	—	—	—	—

[1]Soybeans *more* profitable than grain corn.

The analysis of the table indicates that:

(a) In 1961, the net return on soybeans significantly exceeded that on grain corn. For that year the surveyed farms obtained excellent yields of soybeans.

(b) In 1962, both the yield and price of soybeans were lower than in the previous years, while the corn yield was very favourable. Profit on soybeans still exceeded that on corn, but with a smaller margin.

(c) In 1963, a significant increase in the price of soybeans more than counteracted the unfavourable effects of a low yield in this crop; because of the good yield in winter wheat, the competitive position of that crop improved significantly.

(d) In 1964, the net returns on soybeans and corn were almost identical, while winter wheat showed a very low profit (due to a poor yield).

(e) In 1965, the profitability of soybeans was far less than that of corn. Both the price and yield of soybeans were unfavourable, while the price of corn reached a record high.

Calculation of Approximate Break-Even Point

ELGIN CROP COST STUDY — SOYBEANS
1961 TO 1965

	1961	1962	1963	1964	1965
Number of Records Studied	5	10	9	11	9
Yield per Acre in Bushels	40	33	29	30	24
Per Acre			Dollars		
Gross Return	100	80	85	83	61
Measurable Cost	49	38	37	43	40
Net Return to Risk and Management	51	42	48	40	21
			Index: 1961 = 100		
Index of Gross Return	100	80	85	83	61
Index of Measurable Cost	100	78	76	88	82

The above figures indicate that changes in cost of production do not follow the fluctuations in gross return. In 1963, for example, the index of gross return (1961 = 100) was 85, the index of measurable cost, 76. On the other hand, the index of gross return in 1965 was 61 while that of measurable cost was 82. It may be also observed that cost of production fluctuated less than gross return.[6]

On this basis, it may be assumed that a fairly good approximation of the break-even point (where production cost equals net return) may be obtained by dividing cost of production by price per bushel. Using the data of the Elgin County Study, it is found that in the period 1961 to 1965, the cost of soybean production was $40 per acre and the price of soybeans $2.63, producing an approximate break-even point at 15.2 bushels. At that yield, gross return approximately equalled the cost of production (with no net return).

Relative Profitability

In deciding whether he will utilize all or part of his land for soybean production, the farmer, in choosing between alternatives, must compare his net return on an acre of soybeans with that expected from other crops. Net returns of two crops are equal when the differences between their corresponding gross returns and production costs are equal: that is

$$R_A - C_A = R_B - C_B$$

where R = gross return
C = cost of production

Assuming that grain corn has a gross return of $98 per acre and a cost of production of $62, and that the cost of production of soybeans is $40 per acre, then the required gross return of soybeans must be (98 — 62 + 40) or $76.

In other words, in this example gross returns on soybeans must be at least $76, to make this crop comparable with grain corn. However, this is only an example; the break-even point and relative profitability of soybeans vary over time and from one area to another.

Marketing and Pricing of Soybeans

According to The Farm Product Marketing Board Act, "no person shall commence or continue to engage in the production of soybeans except under the authority of a Licence *(issued by the Ontario Soybean Growers' Marketing Board)*."

The Marketing Board acts on behalf of about 10,000 growers who devote 20 to 25 per cent of their arable land, or about 250,000-260,000 acres, to the cultivation of soybeans. The activities of the Board involve sales promotion and negotiations of various kinds (with buyers and government agencies) on behalf of the growers. The Marketing Board is not a buyer or seller of soybeans nor — according to its spokesman — had it been successful in negotiating prices.

The Agreement for marketing the 1966 crop of soybeans reads as follows:

[6]Fixed costs (land, taxes, interest, depreciation) and some operating costs (ploughing, cultivating) remain about the same regardless of yield.

"1. The minimum prices for the 1966 crop of soybeans produced in Ontario shall be the trading price for each day on the open market basis. Prices will be predicated on the cost of imported soybeans, taking into consideration prevailing exchange rates and other factors."

The greater part of the crop is sold to the three crushing plants in Toronto; the balance is exported to the United Kingdom where it is accorded preferential tariff treatment.

As was indicated earlier, Ontario's production is insufficient to meet the needs of Canadian processors, and large quantities (65-70 per cent of their total requirements) are imported duty free from the United States. For this reason, the price of Ontario-grown soybeans is determined by the U.S. prices.

Ontario dealers have had to maintain their prices a relatively fixed amount above the current Chicago option price; when the exchange differential and shipping charges are taken into account the prices of Canadian and United States soybeans are virtually the same.

The Soybeans Growers' Marketing Board has urged several times that substantial tariffs be imposed on oilseeds and products. The Board reasoned that higher prices resulting from protection would encourage growers to substitute other crops for soybeans, thus raising Canadian production of soybeans closer to the level of Canadian consumption. In its submission to the Tariff Board, the Marketing Board pointed out:

"The present structure allowing the free importation of soybeans, cottonseed and peanuts places the Canadian production of soybeans on the world market in competition with the excess production of countries capable of taking every advantage to dispose of their surpluses, in many cases in spite of the actual needs of their own citizens for a higher fat intake in their diets, in order to acquire dollars with which to trade. The excess production created in the United States by government support programs, we do not feel establishes a free trading price, although it cannot be established that actual dumping in Canada occurs. In the past, excess of supplies of peanut oil have depressed the price of soybeans in Canada because of the manipulation of peanut oil exports by the Indian government. Recent government programs in Peru have released large supplies of fish meal in the Canadian market at sufficiently depressed prices to reduce the demand for soybean meal in Canada."[7]

However, the Tariff Board has not considered it advisable to impose duties on vegetable oilseeds. Its reasoning is that much of the production of oilseeds is exported and, for that reason, must be sold at world prices. Because of the interchangeability of oils in different products, protection could not be achieved without increasing the duties on all oilseeds, oil and products; the resultant increase in costs and prices would be well out of proportion to the benefits, if any, that might accrue to domestic producers of oilseeds.[8]

Support Price of Soybeans

In 1958 soybeans were brought under the provisions of the Agricultural Stabilization Act, but since then the market price has exceeded the established floor price in most years. The floor price corresponds to a determined percentage (90 to 100 per cent) of the previous ten years' average prices.

ONTARIO SOYBEAN MARKETINGS, PRODUCER RETURNS, A.S.B. PAYMENTS AND PRESCRIBED PRICES

Crop Year Beginning August 1	Soybean Marketings 000 Bus.	Returns to Producers at Elevators		A.S.B. Payments $'000	Support Price	
		Total $'000	$ Per Bus.		% of Base %	Actual $/Bus.
1952-53	4.128	10,526	2.55			
1953-54	5,013	12,282	2.45			
1954-55	4,778	11,467	2.40			
1955-56	5,993	12,525	2.09			
1956-57	5,269	11,328	2.15			
1957-58	6,476	12,628	1.95			
1958-59	6,620	12,716	1.92	1,217	90	2.10
1959-60	6,502	12,008	1.85	867	87	2.00
1960-61	4,482	8,961	2.00	Nil	91	2.00
1961-62	6,338	14,260	2.25	Nil	100	2.13
1962-63	6,436	15,989	2.48	Nil	100	2.14
1963-64	4,299	12,048	2.80	Nil	100	2.15
1964-65	6,988	19,483	2.79		99.3	
1965-66	7,500	21,375	2.85		not supported	

Source: Ontario Soybeans Growers' Marketing Board.

The floor prices established under the Agricultural Stabilization Board serve to provide some protection in the case of an extremely adverse market situation. This system proved very efficient in 1958-59 and 1959-60, when $2.08 million of support was paid to soybean growers in Ontario. Since that time market prices (determined in the U.S.) have been increasing continuously, and consequently there has been no need for A.S.B. payments.

[7] *Submission to Tariff Board Re: Oilseeds, Vegetable Oils and Related Products,* December 1, 1961.

[8] Report by the Tariff Board, Reference No. 131.

AREAS WITH POTENTIAL FOR INCREASED SOYBEAN PRODUCTION

Research scientists and other experts are optimistic about the possibilities of increasing the acreage under soybeans in Ontario. I. M. Roberts, in his booklet *Soybeans in Canada* (1966) made the following statements:

> "With the wide range from early to late maturing soybean varieties available, area or location is not a limitation. Yields obtained from soybean test plots at such places as Ottawa, Kemptville and Guelph in Ontario, and at Ste. Anne de Bellevue, Ste. Marinte and Ste. Eustache in Quebec, point out that if soybeans are not being grown in these areas then it is not because we lack adapted varieties with a profitable yield potential, but because of a failure in the application of the cultural practices required to produce a paying crop."
>
> "Soybeans can be successfully grown in any farming area south of Georgian Bay and Renfrew County in Ontario, and along the St. Lawrence River and the Eastern Townships of Quebec."

Some agricultural extension workers whose opinions were solicited were more reserved. They pointed out a number of valid factors limiting a substantial expansion of soybean acreage beyond the present level:[9]

I. *Southwestern Ontario* (2,900 and more heat units)

In *Essex* and *Kent* counties, soybean acreage appears to have reached the saturation point. Soybeans occupy about 20 to 25 per cent of the area of total field crops and compete with both the expanding corn and the significant winter wheat production. *Lambton County* may increase the area of soybeans from the present 50,000 acres to 80,000-90,000, if large-scale drainage improvement is carried out. *Elgin* and *Middlesex* counties may increase their soybean area by 5,000 to 6,000 acres each. Agricultural extension workers expect major expansion in the corn area to support the livestock industry in these counties. *Oxford, Perth* and *Waterloo* counties are traditionally livestock oriented; it is unlikely that soybeans will become a significant crop in these counties.

II. *Central Ontario* (counties between heat unit lines 2,700 and 2,900)

Research workers generally consider that this area has some potential for increasing soybean acreage. At present the counties in this area (Haldimand, Welland, Lincoln, Wentworth, Halton, Peel, York, parts of Ontario, Durham and Northumberland) have an insignificant acreage under soybeans. Average yields are approximately 20 bushels per acre with a gross value of $55 to $60, while shelled corn gives $95 to $100, and winter wheat (with lower production costs), $55 to $60 per acre.

The attitude and expectations with respect to soybeans in this area have been clearly expressed by one of the Agricultural Representatives who reported that his office over the years has promoted soybeans in extension through plot work and on a larger scale at farm level. The picture, however, has been rather discouraging until recently. In most cases the major problem has been weed control. Along with this, some varieties have not shown the results hoped for; this was reflected in shattering and loss at harvest.

Viewing prospects for soybeans in this area, the Agricultural Representative stated:

> "As far as the future is concerned, I would expect we will see an increase in the acreage of soybeans with *improved varieties and improved weed control.* I would not, however, predict too large an increase for the next two or three years but it will take time and good results on the part of those who are now in the soybean business to warrant any expansion."

It appears that Central Ontario as defined above has potential for increased soybean production. However, in order to achieve a breakthrough, certain conditions must be fulfilled, which can be summed up as follows:

(a) Better-yielding varieties should be introduced.

(b) Chemical weed control is necessary.

(c) Comprehensive extension and promotion work must be undertaken to assist the farmers.

III. *Eastern Ontario*[10] (counties between heat unit lines 2,500 and 2,700)

Eastern Ontario is generally considered to have a great potential for expanded grain production in general and for expanded soybean acreage in particular. At present, soybean production in this area is negligible (50 acres in 1965), yields are low (20 bushels per acre) and farmers are not receptive to the idea of introducing soybeans on a large scale. The limitations due to soil and climatic conditions are insignificant compared with those of utilization and marketing of soybeans and those imposed by

[9]Based on views expressed by the Agricultural Representatives of the individual counties and other experts.

[10]Information on this area has been provided by Mr. F. Hampshire and Mr. J. Curtis of the Kemptville Agricultural School.

the competition for available land between soybeans and other crops (such as corn, barley, oats and alfalfa).

Various estimates have been made of the potential for cash cropping in Eastern Ontario. The most recent[11] quoted a potential of 750,000 acres for grain crops in Eastern Ontario, about 250,000 more than presently grown. This would seem to be a very conservative estimate considering that there are some two million acres of land in the top three soil classes, most of which could theoretically be used for cash cropping.

According to *Agricultural Statistics for Ontario, 1965*, there are 1.9 million acres in the 11 Eastern Ontario counties that are at present producing field crops and improved pasture. On this basis there appears to be a potential of at least 600,000 acres in Eastern Ontario that could be used for grain production (corn, barley and soybeans). Assuming that all physical problems such as drainage, fertility and stones can be economically corrected, a goal of 750,000 acres of grain crops in the 11 eastern counties would appear to be realistic. This represents about 250,000 more acres of grain crops than are presently grown. The 750,000 acres should be mainly corn for silage or grain with barley as the next best feed crop. Soybeans should be introduced first of all as a ruminant protein supplement if it is a cheaper source of protein than urea or good alfalfa hay. If and when the soybean crop becomes established, it will also be used as a cash crop. From an economical feed production standpoint, oats will not compete with crops such as barley and corn, and its acreage will decline in the future.

Which crops are grown and in what proportion the land will be used in the future for hay production and pasture will depend on economic changes and technological advances in Eastern Ontario. It is fair to say that provided farmers can profitably sell or utilize soybeans there is no reason why this crop should not be grown on a large scale in Eastern Ontario.

Problems to be Resolved

Problems that must be resolved before the production of soybeans, barley and corn for grain or silage will assume their role on Eastern Ontario farms are as follows:

1. Farmers must be convinced that they will improve their standard of living by growing more grain crops.

2. Financial institutions (Farm Credit Corporation and chartered banks) must be assured that lending money to a soundly based grain-growing enterprise is a good investment.

3. Seed suppliers must be prepared to promote and sell superior seed to the grower.

4. Suppliers and distributors of fertilizers and pesticides will have to offer their services through an adequate and efficient distribution network in order to meet the growing demand for their products flowing from a successfully operating grain-producing industry.

5. Higher yielding soybean varieties, chemical weed control and comprehensive extension work will be needed.

POSSIBLE EFFECTS ON SOYBEANS OF INCREASING RAPESEED UTILIZATION

Because rapeseed competes with soybeans, the future of the latter very much depends on future developments in rapeseed production.

In 1966, the Prairie Provinces had some 1.5 million acres under rapeseed. According to R. K. Downey[12] (Research Station, Saskatoon, Saskatchewan) the future development of rapeseed acreage will depend on two factors:

(1) *World price for rapeseed.* Rapeseed prices are the main factor influencing seeded acreage. If prices remain at their present levels for a number of years, acreage can be expected to climb gradually to about 1.7 million.

(2) *The wheat supply position.* If wheat should become surplus, farmers in the more southerly regions will turn to rape production to bring in cash and relieve their storage problems.

If wheat should become surplus and rapeseed prices remain firm, acreage could reach a maximum of 2.3 million.[13]

Research on rapeseed and its derivatives is presently under way, particularly with respect to

[11]Estimated by Mr. J. Curtis at Fertilizer Dealer's Day at the Kemptville Agricultural School in December, 1966.

[12]Information provided by Dr. R. K. Downey, in charge of Oilseed Crops, Research Station, Research Branch, Canada Department of Agriculture, Saskatoon, Saskatchewan. Experts of the Canada Department of Industry expressed similar views on the subject.

[13]This estimate is based on two assumptions: (1) that 17 per cent of the acreage under crops is all that can be seeded to rape without disease and insect build-up (Northeastern Manitoba, northeastern and western Saskatchewan, and the Peace River area of Alberta have already reached or exceeded this intensity of production. Where the 17 per cent figure has been surpassed, diseases have become troublesome) and (2) rapeseed production will not extend into the Brown Soil zones unless a drought-resistant rapeseed is developed.

increasing the seed and oil yield per acre and improving quality by means of breeding and/or better processing methods. Excellent progress has been made in meeting the first objective with the development of several new varieties (Nugget, Tanka, Target and Echo).

The quality of rapeseed oil and meal is being improved as well. There is now a zero erucic acid rapeseed oil under semi-commercial production which is superior to both normal rapeseed oil and soybean oil as a starting material for partially hydrogenated salad oil. As such, this oil is expected to command a small premium over normal rapeseed oil. Researchers are attempting to increase the shelf-life of the manufactured product and reduce the cost of refining. Through plant breeding, this may be accomplished, thereby possibly making the demand for rapeseed oil greater than for soybean oil. This may not materialize for some time, but it is a distinct possibility.

Rapeseed meal, too, may soon be improved as a result of plant breeding and improved refining processes. In the not-too-distant future the so-called toxic factors and their associated problems – possible metabolic upset and lack of palatability – may be overcome. This would provide more and stiffer competition to soybean products, both domestically and on world markets.

Possibilities of Rapeseed Production in Ontario

There are two species of rapeseed: *Brassica campestries* (Polish type) and *Brassica napus* (Argentine type). Within each species are both winter and summer types. The winter types can not survive the Western Canadian winter but in Europe they form the major proportion of the crop grown. Research workers in the Canada Department of Agriculture are presently engaged in assessing the potential of the higher yielding winter types for eastern Canadian conditions.

In Western Canada, summer type rapeseed in 1965 averaged $43.5 gross return per acre. If winter resistant rapeseed could be grown in Ontario, an average crop would probably yield 50 bushels per acre. At today's prices of $2.71 per bushel, this would provide a gross return of $135 per acre. As costs of production of rapeseed are slightly lower than those of soybeans, high yielding winter rapeseed grown in Ontario might represent a direct competion for soybeans.

At present, no such winter-resistant variety of rapeseed is available. On the other hand, attempts to increase yields and oil content of soybeans eventually will result in improving the profitability of soybeans. Therefore, experts generally agree that while rapeseed produced in Western Canada will compete heavily with soybeans in both domestic and foreign markets, we cannot expect any significant rapeseed acreage in Ontario in the foreseeable future.

CONCLUSION

Examination of the physical conditions and of present and anticipated economic trends affecting soybean production in Ontario has led to the conclusion that *Ontario has a potential for increasing its soybean acreage,* provided that

(a) a gradual change in the pattern of crop production is brought about (reducing the oats and mixed grain areas);

(b) research provides higher yielding varieties, especially for the area between 2,500 and 2,900 heat units;

(c) reliable, cheap herbicides become available;

(d) large scale drainage and pasture improvement programs are carried out;

(e) extension efforts concentrate on disseminating knowledge on adequate methods of soybean growing.

The striking success of the Corn Plan launched by the Ontario Government and the Ontario Agricultural College indicates that a Soybean Plan might lead to similar results. It must be taken into consideration, however, that in the Prairie Provinces a breakthrough in rapeseed utilization is within sight, and that this must be given careful attention when looking at the future of soybeans.

To assess the merit of launching a Soybean Plan, leading research scientists, extension workers, representatives of the growers, breeders and processors, and Federal and Provincial government experts might wish to meet. All aspects of the production of soybeans and soybean products could then be examined so as to assess future soybean acreage on an area basis and to establish research targets. These considerations could then possibly lead to the establishment of a "Soybean Plan".

Such a development could very well promote this relatively new agricultural sector in Ontario and strengthen the economic position of Ontario farmers.

ONTARIO ECONOMIC INDICATORS - SEASONALLY ADJUSTED
(*Figures for Canada)

		1966									1967					
LEADING INDICATORS		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
Average Weekly Hours Worked in Manufacturing	Number	40.9	40.5	40.4	40.6	40.9	40.6	40.8	40.5	40.5	39.8	39.9	40.1			
New Dwelling Unit Starts	Number	3,757	4,287	3,619	3,460	3,233	3,756	3,903	3,616	3,101						
New Order in Manufacturing*	$ Million	3,082	3,111	3,074	3,046	3,152	3,076	3,114	3,125	3,361	3,079	3,038	2,981	3,070		
Housing Contracts	$ Million	48.6	52.4	42.7	51.5	58.3	52.4	80.5	40.8	77.4	50.0	68.3	48.9	60.1	89.5	59.6
Business, Industrial and Engineering Contracts	$ Million	111.4	131.3	103.1	114.8	148.2	120.7	128.7	113.2	195.9	122.8	121.0	160.6	104.4	153.8	136.3
Money Supply*	$ Million	20,169	20,176	20,118	20,353	20,632	20,812	21,044	21,169	21,161	21,333	21,722	21,976	22,351	22,604	22,542
T.S.E. Industrial Index	1956=100	164.1	158.9	162.2	162.5	150.0	144.0	147.2	148.1	147.9	153.3	159.6	163.5	163.4	157.2	164.7
COINCIDENTAL AND LAGGING INDICATORS																
New Dwelling Unit Completions	Number	4,949	4,444	7,501	7,371	6,036	3,779	2,822	4,680	5,875						
Average Hourly Earnings in Manufacturing	$	2.33	2.33	2.35	2.37	2.39	2.41	2.43	2.42	2.41	2.42	2.46	2.47			
Gross National Product*	$ Million			57,620			57,968			59,144			60,152			
Cheques Cashed in Clearing Centres	$ Million	4,537	4,417	4,485	4,568	4,516	4,756	4,845	4,723	4,907	5,124	4,921	4,676	5,116		
Retail Trade	$ Million	636	645	676	694	708	724	718	727	720	714	702	711	723	707	
Labour Force	000's	2,714	2,707	2,721	2,730	2,754	2,751	2,759	2,738	2,746	2,773	2,780	2,817	2,840	2,840	2,848
Employed	000's	2,658	2,639	2,648	2,647	2,669	2,670	2,685	2,665	2,680	2,698	2,705	2,733	2,750	2,752	2,749
Unemployed	000's	56	68	73	83	85	81	74	73	66	75	75	84	90	88	99
Unemployed as % of Labour Force	%	2.1	2.5	2.7	3.0	3.1	2.9	2.7	2.7	2.4	2.7	2.7	3.0	3.2	3.1	3.5
Wages and Salaries	$ Million	948	951	964	976	980	989	1,002	1,010	1,018	1,022	1,030	1,034	1,044		
Industrial Employment Index	1961=100	122.8	123.4	124.5	122.6	124.2	123.7	124.4	125.0	125.0	126.3	125.8	125.9	125.4		
Total Industrial Production*	1949=100	274.8	273.7	274.3	272.1	274.6	277.2	280.1	280.6	280.1	278.6	277.7	276.9	280.7		
Total Manufacturing		247.1	245.1	246.1	245.8	246.5	249.1	250.5	251.1	250.6	247.7	246.7	246.1	249.6		
Non-Durables		240.6	238.8	240.7	239.7	240.1	239.9	242.3	243.5	245.2	242.7	242.4	240.6	244.8		
Durables		254.7	252.4	252.4	253.0	254.0	259.8	260.2	260.0	257.0	253.5	251.7	252.5	255.3		
Mining		398.6	399.6	395.7	377.8	390.1	391.9	410.5	406.3	404.4	411.1	402.5	401.2	408.3		
Electric Power and Gas Utilities		485.5	503.5	504.8	495.6	513.7	519.3	515.0	523.1	525.5	530.8	546.6	542.3	545.1		
Primary Energy Demand (Annual Rate)	BKWH	47.16	48.57	48.57	47.18	48.45	47.92	48.67	49.91	50.83	49.65	51.25	50.41	50.59	51.86	50.15
ECONOMIC INDICATORS NOT SEASONALLY ADJUSTED																
Domestic Exports*	$ Million	753.2	910.0	849.8	833.2	925.1	888.6	878.6	954.1	899.1	926.5	803.7	827.8			
Imports for Consumption*	$ Million	774.7	913.9	901.1	736.7	808.3	803.2	919.6	943.0	861.5	893.2	765.7	864.2	973.7	1,044.5	
Foreign Exchange Reserves*	US $ Million	2,469	2,412	2,342	2,315	2,281	2,244	2,223	2,242	2,236	2,238	2,194	2,203	2,188	2,195	2,169
Price Index of Industrial Materials*	1935-39=100	264.7	264.3	263.0	262.6	260.6	258.8	256.2	255.6	254.7	253.5	253.8	252.2	252.5	254.6	
Business Failures	Number	75	73	90	56	58	63	56	54	57	71	58	59	73	40	59
Business Failures - Liabilities	$ Million	10.0	5.5	6.5	2.5	7.9	2.9	2.0	2.7	4.7	4.2	4.0	2.7	2.6	3.3	2.9

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DEPARTMENT OF ECONOMICS AND DEVELOPMENT

Hon. Stanley J. Randall, Minister *Stuart W. Clarkson, Deputy Minister*

OFFICE OF THE CHIEF ECONOMIST

H. Ian Macdonald, Chief Economist

CONTENTS

THE ONTARIO ECONOMY

Despite the fact that several indicators have still been pointing to only small advances in production, there is reason to believe that the slow pace of the economy – one which has been evident for a number of months now – will pick up speed. The main factor producing this impression is the approaching completion of the inventory adjustment which has been taking place. With the reduction of manufacturers' inventories production should now be more directly responsive to final demand.

Typical of the statistics which point out the lull in the economy is the Index of Industrial Production, showing only a small 0.3 per cent increase from May to June, and the rise in Ontario's unemployment rate from 3.1 per cent in May to 3.5 per cent in June. However, other statistics – notably foreign trade and certain types of construction activity – have been moving ahead.

Production

Steel ingot production was 770,000 tons in July, a decline of eight per cent from July, 1966. This brings the seven-month total for 1967 to 5,605,000 tons, six per cent lower than last year.

Motor vehicle production too was down from 1966 – at 43,524 units in July it was down 11.7 per cent from last year – but this was at least in part due to the early commencement of new model production in the summer of 1966. On a cumulative basis, motor vehicle production for 1967 approached 571,000 units, a decline of less than three per cent from 1966. Passenger car production in July was actually ahead of 1966 (by 7.4 per cent), but the poorer production figures for the first four months of this year have kept the cumulative figure to 7.7 per cent below 1966. Units produced in July and the January-to-July period numbered 31,526 and 425,895 respectively.

The seasonally adjusted Index of Industrial Production (based on 1949 = 100) rose to 281.1 in June (the latest month for which statistics are available), a fractional 0.3 per cent gain from the revised May figure of 280.2. Both mining and manufacturing contributed to the increase, advancing 1.8 per cent and 0.3 per cent respectively from the previous month; electric power and gas utilities, on the other hand, fell 1.6 per cent.

Within the mining component increases in petroleum (nearly six per cent) and asbestos (more than five per cent) were important factors offsetting a two per cent decline in metals. Lead, iron ore and zinc were the metals which declined (by approximately two, three and 10 per cent respectively); the remaining metals increased in varying amounts.

In manufacturing, the 0.3 per cent overall gain was made up of a 0.9 per cent rise in non-durables and a 0.4 per cent decline in durables. Non-durables rose primarily because of increases in printing, publishing and allied industries (five per cent), rubber products (nine per cent) and products of petroleum and coal (four per cent). Durable manufactures fell due to declines ranging from three per cent in electrical apparatus and supplies, to one per cent in non-metallic products.

The major factors, the declines in iron and steel products and in electrical apparatus and supplies, could in part be attributed – either directly or indirectly – to labour disputes. Gains in transportation equipment, particularly a five per cent rise in motor vehicle production, and wood products (two per cent) failed to offset the losses in the other components.

Construction

Seasonally adjusted construction contract awards in Ontario, *Southam Building Guide's* indicator of future construction activity showed housing contracts moving substantially upward from June to July. In contrast, business, industrial and engineering contracts dropped slightly during the same period. In rising to a value of $85.0 million in July from $59.6 million in June, housing contracts approached the 1967 high of $89.5 million set in May. The July figure of $133.6 million for business, industrial and engineering contracts, on the other hand, showed the second successive month of decline after a fairly high May figure of $153.8 million. (The 1967 peak so far is the $160.6 million recorded in March.)

On the basis of total unadjusted contract awards, the July 1967 total of $263.4 million was substantially ahead of 1966's $199.6 million for July. This marked the fourth successive month in which monthly statistics were ahead of the previous year, and the third successive month in which increases of more than 30 per cent were recorded. Clearly responsible for this were consistent year-over-year gains in residential, institutional and engineering contracts, the two most significant single factors being large increases in hospital and electric power construction awards.

Below are the large construction awards ($1.0 million and over) placed recently in Ontario.

LARGE CONSTRUCTION AWARDS PLACED RECENTLY IN ONTARIO

Location	*$ Million*	*Description*
Burlington	2.0	School
Flesherton	2.2	School
Grimsby North Twp.	1.0	Hospital addition
Guelph	1.0	College addition
Hamilton	1.5	Apartments
London	3.0	Plant addition
North York Twp.	7.4	College addition
North York Twp.	7.4	Hospital
Ottawa	1.5	Plant
St. Catharines	1.0	Apartments
Sault Ste. Marie	1.5	Sewer system
Sudbury	1.0	Apartments
Toronto (metro)	22.2	Apartments
Toronto (metro)	5.0	Office buildings
Welland	1.2	Sewers
Windsor	4.7	Pumping station

Continued improvement in the number of dwelling unit starts in 1967 in Ontario centres of 10,000 population and over has also been evident in recent months. Starts in July numbered 6,326, 27.6 per cent higher than 12 months ago. The statistics of the past few months, considerably higher than those of the corresponding months of 1966, have brought the year-over-year cumulative gain for the first seven months to 25.8 per cent. All of the major centres except Kitchener participated in the July increase.

Dwelling unit completions numbered 4,057 in July, down 53.2 per cent from July, 1966. This brings the cumulative decline for 1967 to 25.4 per cent. At the end of July there were 41,652 units under construction, a decline of some 1,000 units from the same time last year.

Employment

Ontario's labour force, seasonally adjusted, rose to 2,871,000 in July, an increase of 23,000 from the previous month. At the same time employment increased by 22,000 to 2,771,000. The unemployment rate, at 3.5 per cent, was the same as in June. For the first seven months of 1967 the cumulative average rate of unemployment has been 3.1 per cent, as compared with 2.4 per cent in 1966.

Canada as a whole recorded an unemployment rate of 4.3 per cent in July, just slightly lower than June's 4.4 per cent. This was the result of an increase of 74,000 in the labour force, bringing the July figure to 7,775,000, and a 77,000 increase in employment (to 7,441,000). Canada's unemployment rate for the first seven months has averaged 4.0 per cent compared with 3.6 per cent last year.

Foreign Trade

Preliminary data on Canada's imports and exports (including re-exports) show that the growth of exports exceeded that of imports in June. Exports, valued at $1,033.9 million, were up 18.6 per cent from June, 1966, while imports at $935.9 million were 3.9 per cent higher. This produced a $98.0 million balance of exports over imports for the month.

On a cumulative basis, exports for the first six months of 1967 have reached $5,625.5 million, 16.8 per cent higher than the first half of 1966. Imports have followed close behind, rising 14.2 per cent in the same period to $5,477.1 million. The export balance has thus been $148.4 million as opposed to $20.7 million one year earlier.

The United States, accounting for over 60 per cent of Canada's export sales, has increased its purchases by almost 20 per cent comparing the January-to-June periods of 1966 and 1967. The growth of imports, at 15.0 per cent, has been a little smaller, although the dollar value of imports ($4,067.8 million) has been somewhat larger than the dollar value of exports ($3,524.1 million). Canada's trade position with the United Kingdom has continued to be favourable, although imports are now growing slightly more rapidly than exports (9.1 per cent as opposed to 7.0 per cent, comparing half-year data for 1966 and 1967).

Detailed export statistics, available for the first four months of 1967 only, reveal a 17.0 per cent increase in domestic exports from the corresponding period in 1966. While the largest category – inedible fabricated materials – was up 9.6 per cent to $1,384.3 million, it was the inedible end products category that displayed the most impressive growth, rising 58 per cent. As has been the case for the past few years, motor vehicle exports have been very significant here.

POPULATION MIGRATION TO AND FROM ONTARIO 1870-1940

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This article, an extract from a longer work,[1] attempts to provide new estimates of population migration to and from Ontario during the period 1870 to 1940 and to indicate the composition of this migration with respect to the natal origin of the migrant.

Changes in population levels express the net balance of changes within a number of underlying components. Given a situation in which in-migration and out-migration from a place is zero (or the balance between these two movements is zero), population growth will take place as a result of natural[2] increase. Natural change is itself a net relationship between the number of births and deaths.[3] Population changes are therefore the result of the net balance among four components: births, deaths, in-migration, and out-migration; or between the two net relationships, natural increase and net migration. Net migration as an element in changing population size and distribution has long been considered an extremely sensitive measure of economic growth and of changes in the regional distribution of economic opportunities. In particular the "net" relationship masks and filters out a good deal of the chance elements accounting for gross migration movements.[4] This element has thus been the subject of most research undertaken on population change. While this is understandable it should be clear that changes in fertility or mortality rates, or in their areal distribution, control the inherent growth tendencies within an area. As such they deserve, perhaps, more attention than has been their lot to date.

Though the major portion of this article attempts to indicate some of the main features of changes within the balance of population in Ontario due to migration, towards the latter half there is a discussion of the relationship between this migrational element and that of natural increase.

The Nature of Migration Statistics

Migration statistics are derived from inquiries made concerning previous place of permanent residence (occasionally from inquiries made as to the intended place of residence of someone migrating), or by indirect methods which derive migrational estimates from other statistics. In the first two cases the results, once gathered, have to be grouped into a specific set of areal units, unless they are to remain a collection of point-to-point data. Migration is then said to have taken place when these boundaries have been crossed during movement. In the final case the spatial mesh has already been predetermined by use of data previously aggregated.

The term migration is in all cases an abstraction or generalization, in that anyone who changes house can be said to migrate, in the same way as anyone who works outside his home can be said to commute. Estimates of the degree of migration thus depend entirely on the boundaries chosen to measure it. Were a number of people to migrate the same distance, the number of migrants recorded would depend on the size of the "boundary grid". If this were fine (i.e., 200 square yards) almost everyone would be a migrant. As the grid becomes coarser, the chances of recording out-migration become less.

These strictures can generally be overlooked in either of two cases: first when a common set of spatial units is under consideration, providing the units do not differ radically in size[5] (e.g., counties); second, when attention is focused on changes taking place within particular political units (as provinces have been considered here). It should be pointed out, however, that further work not yet published points to extremely uneven rates of growth through migration in the province in the period under con-

[1] Unpublished M.A. thesis, *Components of Population Change, Ontario: 1850 to 1940,* Department of Geography, University of Toronto, 1967.

[2] "Natural" in this sense is used to denote change attributable to the balance of births and deaths and is derived from the Latin word "natalis". It should not be thought of in the same sense as "normal" or "inevitable".

[3] Though natural increase is more common, natural decreases are not unknown, particularly in areas of a predominantly old population.

[4] These have been seen elsewhere to be very complex in their areal pattern and extremely widespread even in places of static or declining population. See R. D. Howland, *Some Regional Aspects of Canada's Economic Development,* Royal Commission on Canada's Economic Prospects (Gordon Commission), 1957.

[5] The role of net-migration as a component in population change increases as the statistical unit considered becomes

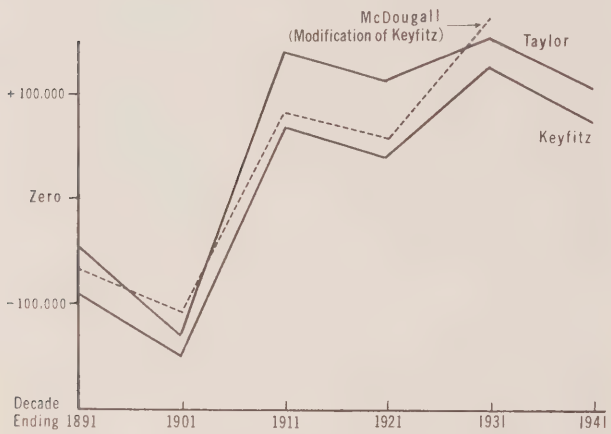
sideration. Thus provinces should not be regarded as internally undifferentiated when their aggregate characteristics are described.

Estimates of Net Provincial Migration

Keyfitz[6] was the first to attempt an estimate of net provincial migration movements. The year 1880 was selected as the starting date for his study, as it was the earliest period at which data on age structure by province for the whole of Canada were provided in the census. Using the survival ratio method of calculating natural increase from life tables, he made a series of estimates of net provincial migration up to 1950. His estimate of Ontario migration has been plotted in Figure 1.

FIGURE 1

ESTIMATIONS OF NET MIGRATION TO AND FROM ONTARIO, 1881-1941



Sources: Table 1, Keyfitz[6] and McDougall[7].

The validity of the life tables used to make these calculations has, however, been questioned. No Canadian tables were published before 1931 and mortality rates can only be approximated by adapting others. Keyfitz used English survival rates (age by age) for the period 1850 to 1931. MacDougall[7] has suggested that the use of these tables implies that the two countries experienced similar demographic conditions and he has offered an alternative. American life tables are available for the period 1901 to 1910 and it is thought that these approximate Canadian mortality experience more closely than do those of the English. The best estimate, MacDougall maintains, is to employ the American tables to modify the English back into the nineteenth century; to use the American tables themselves over the decade 1901-1910; and to use a linear interpolation of the United States table from this point to the Canadian table for 1930-32 as a measure of the survival rate through the period 1910-1930. He states:

> Our survival rates lie below those developed by Keyfitz for every age group, for every decade, because of our use of the American table for 1901-1910 and therefore our estimates of net migration are larger if positive, and smaller (in absolute value) if negative, for each decade than those derived by Keyfitz. (P. 165.)

MacDougall applies his modified life tables only to the national and not to the provincial age structures. An approximation of Ontario migration using his tables is attempted here by applying factors equal to the ratio of MacDougall's to Keyfitz' estimates for the total net Canadian migration, to Keyfitz' estimate for Ontario at each decade.

An independent series has been constructed utilizing the reports of the Ontario Registrar-General from 1881[8] onward. The expected population, were net migration to have been zero, is derived not from the "survival ratio" calculated by life tables but from the actual birth and death statistics of the Registrar-General. This method of calculation leads to underestimated net migration flows, due to the fact that:

(a) All migrants arriving after census date (T_1) and leaving before census date (T_2) are not recorded. The method, therefore, underestimates net out-migration.

(b) All births and deaths recorded are assumed to be those of the population resident at T_1, though in fact the balance of births over deaths of in-migrants

smaller (the natural increase component operates in the reverse manner). Thus if a census tract were to be considered, the migrational change component would be extremely high, whereas if the world as a whole is considered it is zero. Comparisons between values relating to widely differing spatial meshes bear little meaning especially when they appear to be considered as absolute measures regardless of the spatial structure which determines them. Such comparisons can be found in the work of both Buckley and Anderson. For example:

> Although Canada has had one of the highest rates of net migration of any country in the world in the twentieth century, internal net migration has been far greater than international net migration . . . from 1921 to 1960. . . . In other words . . . internal net migration was more than twice as large as the net movement into Canada . . . Thus the amount of internal net migration was large even when the international net migration was small.

I. B. Anderson, "Internal Migration in Canada, 1921-1961," Economic Council of Canada, Study No. 13, 1966, p. 15. See also K. Buckley, "Population, Labour Force and Economic Growth," *Banff Business Policies Conference on Canadian Economic Survival*, Vol. 2, 1963.

[6]N. Keyfitz, "The Growth of Canadian Population," *Population Studies*, Vol. 4 (1950), 47-63.

[7]D. M. MacDougall, "Immigration into Canada 1851-1920," *Canadian Journal of Economics and Political Science*, XXVII (1961), 162-75.

[8]Statistics between 1869, when compulsory registration began, and 1881 were in all probability somewhat inaccurate.

within the time-period is included in the total. As most in-migrant natural increase is fairly high, this will increase the natural increase total and hence underestimate migration.

In Figure 1 estimates made in the analysis of the provincial birth and death statistics are shown alongside these two other estimates for comparison. Keyfitz' estimates of net out-migration appear greater and his estimates of net in-migration less than either those made by MacDougall or those calculated here. The estimates presented here appear to conform more closely to those of MacDougall than those of Keyfitz. Certain differences in method and assumptions may go some way in accounting for the variation in estimates:

(1) The survival ratio method used by Keyfitz and MacDougall does not take account of the movements of those less than 10 years old and therefore underestimates total migration.

(2) In both cases life tables are used which purport to be true for the country at large, though not of course, for any particular part of it. Were the mortality experience of Ontario to be different from that of Canada, certain errors would result.

(3) Regarding the use of the vital statistics method, non-registration of births or deaths directly affects the migrational estimates.

$$Cm = Pi - (B_1 - D_1)$$
$$Am = Pi - (B_2 - D_2)$$

Calculated migration (Cm) is less than actual migration (Am) with respect to population at a particular time-period (Pi), to the extent that the births are under-recorded (i.e., under-registration of births B_1 underestimates net migration and under-registration of deaths D_1 overestimates net migration). It is likely, therefore, that as under-registration of births was generally more common than that of deaths, there would be differences between the estimates.[9] The use of the decennial census population totals does not enable any estimates to be made of the numbers of in-migrants who pass into and out of the province in the intercensal period. A great number of foreign born out-migrants would be in this category.[10] Many never intended to remain in Canada, and moved on to the United States after a short stay. The method can make no estimation of this number, however, and it should be pointed out that the economy benefited from their presence even though their stay was not very long.

There are serious problems in obtaining any dependable estimates of migration in this period. The lack of internal consistency in the data, the presence of the unguarded international boundary and the complete lack of government records of emigration mean that a definitive population balance sheet for even the whole of Canada has not yet been established.[11] Despite considerable variations in the estimates shown in Figure 1 it is encouraging to see a broad agreement on the general cycle and size of net population exchanges to and from the province.

Migration to and from Ontario

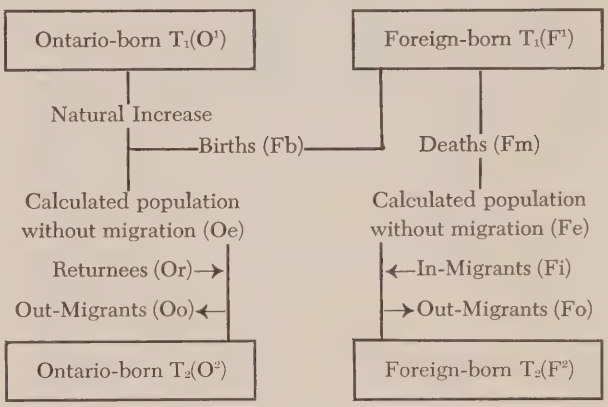
(1) *In-Migration: Natal Origin of Migrants*

Migration to and from the province was made up of peoples of different ethnic groups. An attempt has been made to separate this migration into various components, based on the origin of the migrant, to see if there were significant differences in mobility. The calculation was made in the following manner.

If the assumption is made that the birth and death rates calculated for a decade can be applied to any portion of the population,[12] it is possible to make estimates of the net migration of these segments in the same way as total migration was calculated. The "expected population" (were no migration to have taken place) in any group of foreign-born population (that is, born outside Ontario) is derived from

FIGURE 2

NUMERICAL CHANGES WITHIN ONTARIO-BORN AND FOREIGN-BORN POPULATIONS IN ONTARIO



[9]The comparison made between estimated losses from Ontario to the United States and the net change of Canadian-born in the United States appears to point to a heavy underestimation of net out-migration from the province, particularly in the nineteenth century (cf. Table 7).

[10]R. Wilson, "Migration Movements in Canada, 1868-1925," *Canadian Historical Review*, XIII (1932), 157-82.

[11]J. Pickett, "An Evaluation of Estimates of Immigration into Canada in the late Nineteenth Century," *Canadian Journal of Economics and Political Science*, XXXI (1961), 449-508.

[12]This assumption is not strictly correct as differences in fertility and mortality are common between different immigrant groups and between them and the native population.

the population of that group at time T_1 reduced by mortality (calculated from the provincial mortality rate).

The "expected" population of Ontario-born is derived from the population at T_1, reduced by mortality and increased by the fertility of the entire population of the province. (Any offspring of foreign-born in Ontario is of course included as Ontario-born.) This can be shown diagrammatically (see Figure 2).

The estimates of net group migration for the decade 1901-1911 were calculated as shown in Table I. The birth-rate during this period was 23.7 per cent and death rate 14.4 per cent.

TABLE 1

CALCULATION OF MIGRATION RATES FOR GROUPS BY NATAL ORIGIN, 1901-1911

Birthplace	*Actual Population 1901*	*Calculated Population 1911*	*Actual Population 1911*	*Net Migration*
		"FOREIGN"-BORN		
	F^1	Fe (F^1-Fm)	F^2	(F^2-Fe)
Canada (outside Ontario)	74,027	63,367	83,750	20,383
British Isles	244,539	209,325	353,597	144,272
British Possessions	2,708	2,318	5,418	3,163
U.S.A.	44,175	37,814	55,676	17,862
European	30,895	26,446	86,969	60,523
Others	1,843	1,577	6,123	4,546
		ONTARIO-BORN		
	O^1	Oe	O^2	(O^2—Oe)
Ontario	1,784,760	2,045,113	1,935,696	—109,417

With regard to the Ontario-born, the calculated population (Oe) equals the natural increase of the Ontario-born at T_1 plus the births derived from the foreign-born (Fb), or

$$Oe = O^1 + \frac{9.3\ (O^1)}{100} + \frac{23.7\ (F^1)}{100}$$
$$= 1{,}784{,}760 + 165{,}983 + 94{,}370$$
$$= 2{,}045{,}113.$$

Similar calculations were made for the six decades under consideration; the results are presented in Table 2.

TABLE 2

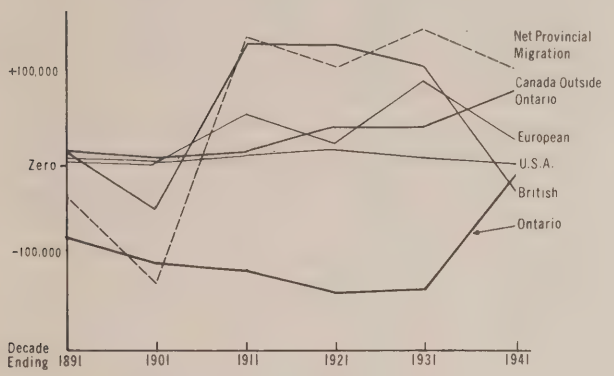
MIGRATION TO ONTARIO BY NATAL ORIGIN, 1881-1941

Origin	*1881/91*	*1891/1901*	*1901/11*	*1911/21*	*1921/31*	*1931/41*
Canada (outside Ontario)	16,009	11,297	20,383	44,589	45,890	87,382
British Isles	14,493	— 44,340	144,272	146,258	118,091	— 17,556
British Possessions	985	85	3,163	4,512	4,051	1,214
U.S.A.	2,612	6,512	17,862	22,848	10,284	7,735
Europe	5,237	5,586	60,523	28,261	104,284	30,371
Others	1,632	— 605	4,546	3,057	2,767	2,827
Ontario	—77,346	—105,843	—109,417	—131,266	—130,701	— 4,217
Net Provincial Migration	—36,378	—127,478	141,332	116,259	154,259	107,756

This information, shown in Figure 3, draws attention to the different migration patterns of the various groups showing how net provincial migration is a result of the net relationship among these migration streams.

FIGURE 3

ESTIMATION OF NET MIGRATION BY NATAL GROUP IN ONTARIO, 1881-1941



Source: Table 2.

Net out-migration of Ontario-born has consistently been the most important negative factor in the composition of total provincial migration,[13] and also one of the most significant absolute movements. The size of this movement was fairly consistent, rising slowly between the periods 1881/91 and 1911/21. The mobility of Ontario-born vis-a-vis other groups is not as high as it may appear. The high proportion of Ontario-born to the total population should be considered together with the fact that migration of foreign-born represented at least the second such move. What is perhaps more significant is the consistent out-migrational level of Ontario-born and its apparent lack of correlation with economic conditions in the province. The 1931-41 period is the only major exception to this tendency.

If net out-migration of Ontario-born remained fairly consistent, it follows that the fluctuation in total net migration was the result of changes in movements of the other groups. Persons born in the British Isles made up the largest migrant group among those born outside Ontario. They were also the most mobile, and appear to have responded markedly to changes in the economic situation.[14] Thus the economic depression and the opening of the West in the 1890's resulted in a net out-migration of 44,000; the more affluent period between 1901 and 1931 in a net in-migration of over 100,000 per decade.

During this period the inward movement of British-born entirely compensated for the out-movement of Ontario-born, and the net inward movement of the other groups served to give the province a positive balance.

European migrations exhibited similar general trends to those of the British, though on a smaller scale. The number of Europeans entering the province has greatly increased since the beginning of the 20th century but considerable declines in this migration were sustained in both the 1911-1921 and 1931-1941 decades. High levels of immigration into Ontario during the 1920's indicated the end of the Prairie colonization era. Ontario gained 43 per cent of the total Canadian net immigration into urban, and 52 per cent of the net immigration into rural areas.[15]

The movement of those born within Canada but outside Ontario, showed little similarity to the migration trends of either the Ontario-born or the other groups. The movement has always been positive and it has gradually increased throughout the 1881-1941 period. Net in-movement of United States-born has generally been the smallest of the five groups under examination. The greatest inward movement occurred during the years 1911-1921.

The 1931-1941 decade warrants some special examination because of its dissimilarity with any previous period, marked as it was by a number of unprecedented population movements. For the first time, net Ontario-born out-migration was insignificant (only 4,217), indicating that the usual volume of out-migration was checked. More significantly, a considerable return movement was probably in progress, particularly of those Ontario-born domiciled elsewhere for at least 10 years. For the first time, immigration into the province by other Canadians came close to equalling the peak number of European immigrants (attained during the previous decade).

In-migration of non-Canadians to the province, however, dropped to its lowest level since the 1890's and there was actually an out-migration of British-born during the decade. These changes were largely a reflection of world-wide economic adversity. Can-

[13]With the exception of the decade 1931-1941 when it was narrowly surpassed by the net out-migration of British-born.

[14]This was probably the result of the generally higher socio-economic level of British-born compared to the other immigrant groups.

[15]W. B. Hurd and J. C. Cameron, "Population Movements in Canada 1921-1931 and their Implications," *Papers and Proceedings of the Canadian Political Science Association,* IV (1934), 220-37.

ada imposed a number of restrictions and as a result immigration declined to a record low.[16]

During the period 1881-1941 as a whole, it seems that the movement of people to the province had two facets. Movement of Canadian-born people (both those from elsewhere in Canada and Ontario) was affected by circumstances different from those affecting immigrants.

For fifty years, net out-migration of Ontario-born continued at a fairly constant rate, and at a quite considerable level. In-migration of other Canadians increased gradually from a low base during the nineteenth century. During the 1930's the relative prosperity of the province compared with the rest of the country attracted a greater number of Canadians born outside the province than ever before, together with a considerable number of Ontario-born who had previously lived in other parts.

Foreign immigration has largely served to compensate for the loss of Ontario-born to other areas and any net provincial in-migration has been due to an increased volume of this movement. The attraction of the province to non-Canadians however has varied considerably through time. The British-born appeared to be the most sensitive to changes in economic conditions, and the only group other than the Ontario-born ever to sustain any net out-migration.

(2) *In-Migration: Province of Origin of Canadian-born Migrants*

It is possible to make estimations of the origin of the Canadian-born population moving into Ontario between 1881 and 1941 by using Canadian census material. The statistics in Tables 3 and 4 and Figure 4 have been derived from the "Population by Birthplace" tables in the census reports, retabulated by Buckley.

Differences in totals between two census years, if positive, represent the absolute minimal net migration movements into Ontario from the other provinces. Actual migration would invariably have been higher than this, as deaths among the non-Ontario-born within the province during the period are not taken into account.

The earliest censuses indicate that during the nineteenth century Quebec was Ontario's main source of Canadian-born in-migrants. They were chiefly destined for the newly opened lands of the northern Clay Belt, and later, the mining towns of the North. There was probably some movement too into the eastern counties of the province. There was, however, little in-movement of any other group into the province in this 30-year period.

In-migration was at its lowest during the 1891-1901 decade due partly to the economic depression in Ontario and the more attractive opportunities for settlement offered elsewhere. There was even a return movement to the Maritime Provinces, almost equal in size to the numbers who moved to Ontario during the previous 30 years.

Migration of Canadian-born into the province continued at a low level in the first decade of the twentieth century, despite increased economic opportunities (the fact that the province was able to attract an estimated 77,500 immigrants reflects this). It appears that for Canadians, however, the West still offered the best prospects.

The transition from a province of net out-migration to one of net in-migration began in the 1911-1921 period, when net out-migration of Canadian-born declined to only 2,700 from a figure of 147,000 in the previous period (see Table 3). Quebec was once again the chief source of this in-movement,

[16]Under the provision of an Order-in-Council of August 1930, immigration was restricted to the following classes:

(1) British subjects from the British Isles or the Dominions and having sufficient funds to maintain themselves until employment was secured.

(2) United States citizens coming in from that country and having similar financial resources.

(3) Agriculturalists having sufficient means to farm in Canada.

(4) Wives and unmarried children (under 18 years of age) of persons who were already legal residents of Canada and who were in a position to support their families.

TABLE 3

NET MIGRATION OF CANADIAN-BORN TO AND FROM ONTARIO, 1871-1941
(Thousands of persons)

1871-1881	*1881-1891*	*1891-1901*	*1901-1911*	*1911-1921*	*1921-1931*	*1931-1941*
—1.42	—4.56	—5.17	—14.73	—0.27	5.14	10.03

Source: M. C. Urquart, K. A. M. Buckley, eds., *Historical Statistics of Canada* (Toronto: Cambridge University Press, 1965), Series A215, p. 21.

TABLE 4

DECENNIAL CHANGE IN CANADIAN-BORN (NON-ONTARIO) RESIDENTS OF ONTARIO, 1871-1941

(Thousands of persons[1])

Province of Birth	*1871-1881*	*1881-1891*	*1891-1901*	*1901-1911*	*1911-1921*	*1921-1931*	*1931-1941*
TOTAL							
Canadian-born Residents of Ontario	315.0	215.2	144.9	156.9	270.5	340.6	429.4
Born in Ontario	304.3	204.5	144.7	150.9	239.7	303.5	356.8
Born in Other Provinces	10.7	10.7	3.0	5.9	27.3	37.0	72.6
Prince Edward Island	0.7	0.1	0.1	—	0.3	0.5	0.8
Nova Scotia	0.1	1.0	—1.7	1.5	2.8	4.4	3.4
New Brunswick	—0.1	—	—0.5	0.5	1.8	3.3	3.1
Quebec	9.9	8.4	3.0	3.0	16.9	10.7	11.9
Manitoba	—	1.2	1.1	0.3	3.8	8.3	33.7
Saskatchewan	0.2	—	0.6	0.2	2.9	5.8	22.9
Alberta					1.6	2.6	6.2
British Columbia		0.2	0.2	0.2	1.2	1.2	2.6
Yukon and N.W.T.				0.3	—0.2	—	—

[1] Figures may not add to total due to rounding.

Sources: K. Buckley, "Historical Estimates of Internal Migration," *Canadian Political Science Association, Conference on Statistics*, 1960, Papers (Toronto: University of Toronto Press, 1962); and Census of Canada, 1941, *General Review*, Vol. 1, Table 21, 653-664.

though significant migration was recorded also from Manitoba, Saskatchewan and the Maritimes. Net in-movement[17] during this period amounted to 27,300 and this was increased to 37,000 during the 1920's. Quebec was still the main origin of in-migrants but the movement was now approached in size by those from both the Prairie and the Maritime provinces.

The trend reached its peak in the depression era. Ontario was, more than any other province, the destination of the thousands leaving behind them the disastrous economic and climatic conditions of the Prairies. The influx of these people bears comparison in numerical terms to the original outflow of Ontario migrants 50 years earlier. Persons in Ontario, born in Saskatchewan and Manitoba alone, increased by 33,400, but in-movement was not only from these areas. Every province (except Quebec) showed a record in-movement of population into Ontario during this period.

Attention was turned to migrational movement in the 1941 census. All those enumerated were asked about previous residence in other provinces. Migrants were tabulated by province of origin and by two periods of movement, 1931-1941 and before 1931.

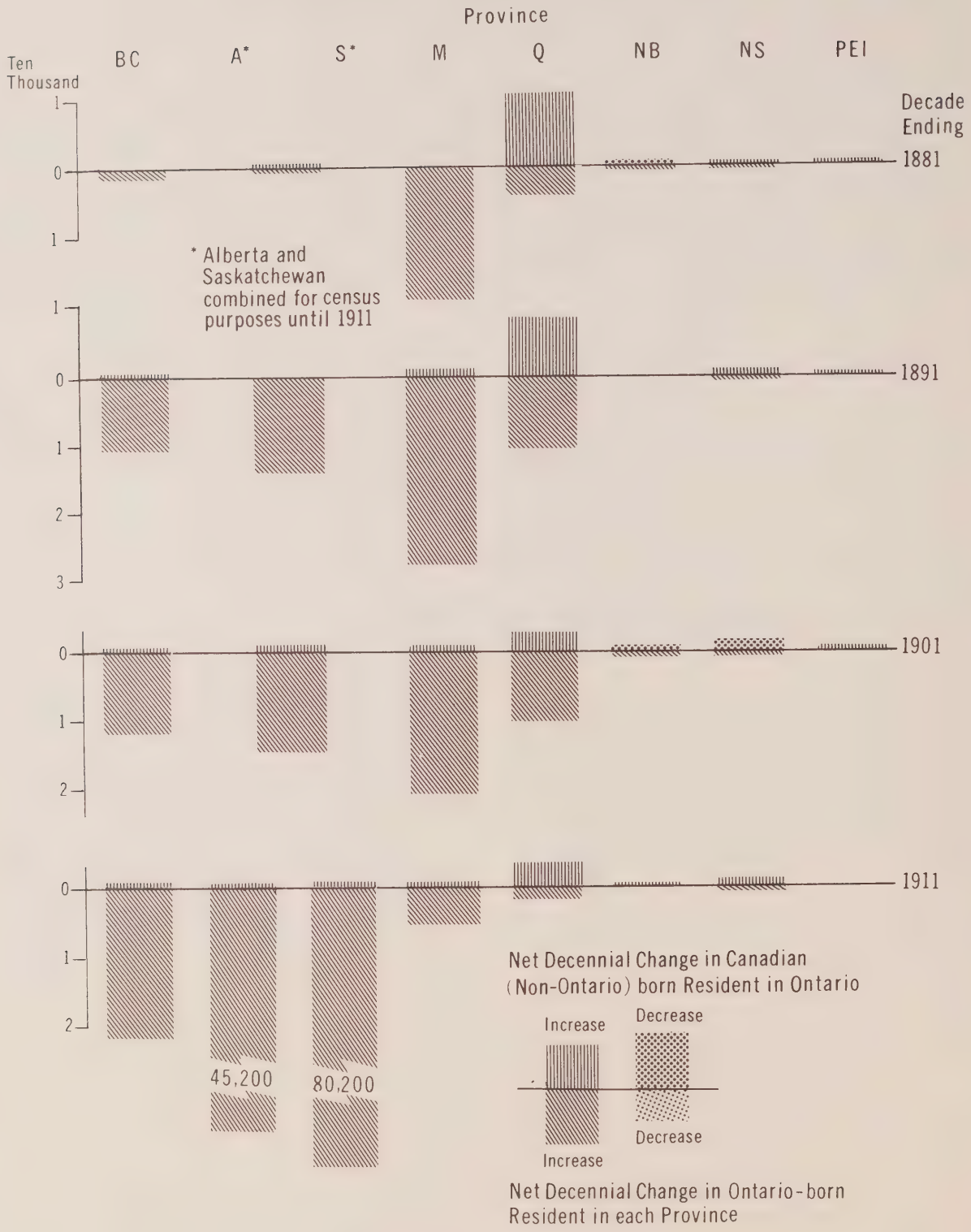
The results include within them both the foreign-born resident in Canada in 1931 and also re-migrated Ontario-born, and are therefore larger than the figures used earlier, which relate only to the Canadian-born.

The figures, reproduced in Table 5, illustrate a similar situation to that described above. Quebec was Ontario's chief partner in population exchanges. In only one case was there a negative net exchange with another province (British Columbia) and that figure was fairly insignificant. Manitoba and Saskatchewan provided almost half the in-migrants (46.3 per cent) and Quebec another one-third (34.1 per cent).

[17]Net movement of Canadians to and from Ontario is calculated by the change in Ontario-born in each province compared with the change of Canadian-born for each province, resident in Ontario (i.e., the difference between the values in Tables 4 and 6).

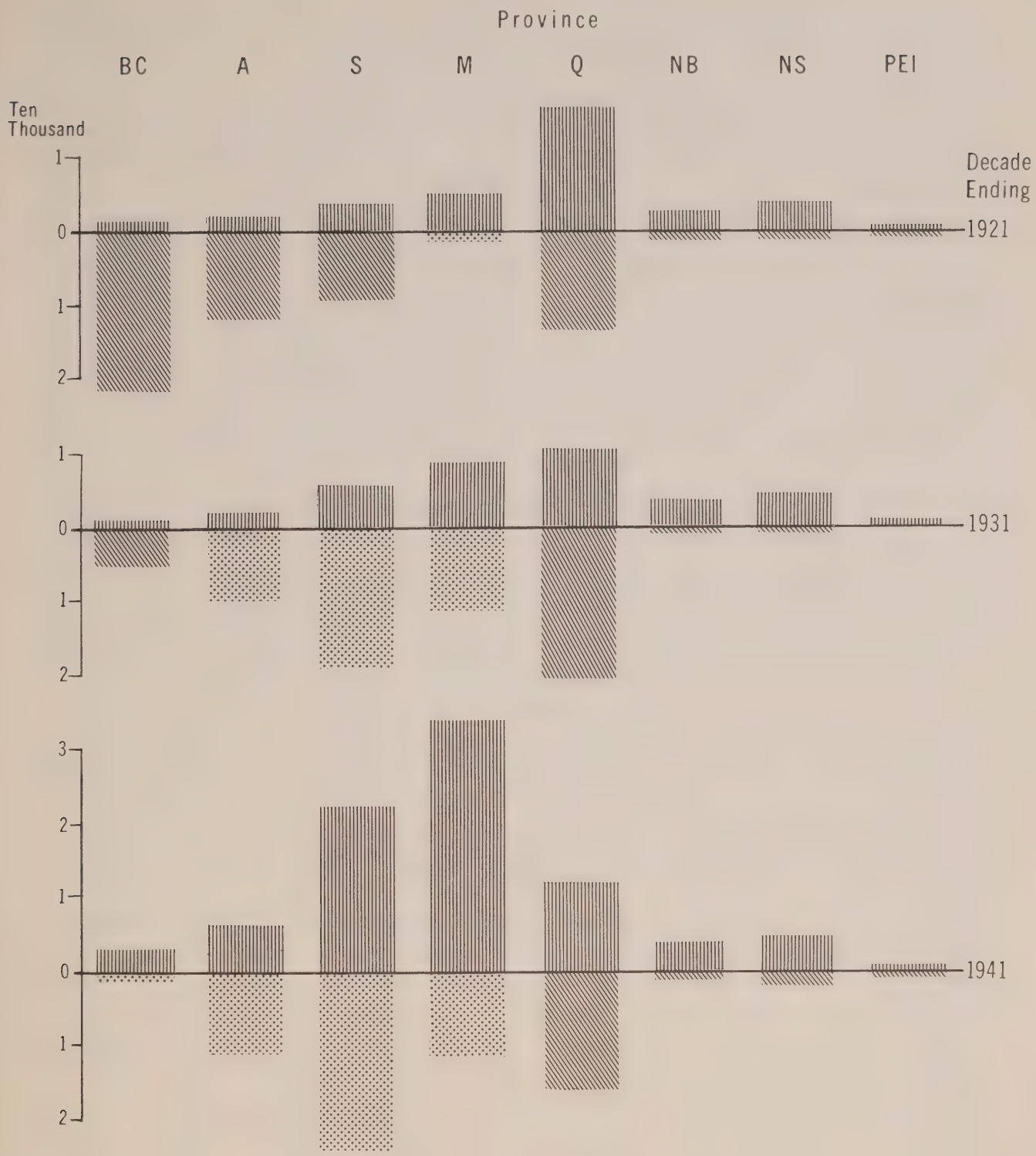
FIGURE 4

NET CHANGES IN NUMBERS OF CANADIAN-BORN (NON-ONTARIO) RESIDENTS OF ONTARIO AND ONTARIO-BORN BY PROVINCE, 1871-1941



Source: Tables 4 and 6.

FIGURE 4 (continued)



Source: Tables 4 and 6.

TABLE 5

MIGRATION BETWEEN ONTARIO AND OTHER PROVINCES, 1931-1941

		P.E.I.	*N.S.*	*N.B.*	*P.Q.*	*Man.*	*Sask.*	*Alta.*	*B.C.*	*Total*
1. In-Migration to Ontario	No.	993	5,217	4,386	46,903	32,435	31,227	10,184	6,227	37,698
	%	0.7	3.8	3.2	34.1	23.6	22.7	7.4	4.5	100.0
2. Out-Migration from Ontario	No.	249	3,830	1,983	38,507	8,125	3,843	4,093	8,730	69,392
	%	0.4	5.5	2.9	55.5	11.7	5.5	5.9	12.6	100.0
3. Net Movement	No.	744	1,387	2,403	8,396	24,310	27,384	6,091	2,503	68,306
4. In-Migration of Non-Native-Born Residents[1]		200	1,800	1,300	35,000	20,600	9,400	3,900	3,600	75,800

[1]i.e., In-migration to Ontario recorded in 1941, by province of residence in 1931, excluding only residents born in the particular province under consideration.

Source: Rows 1, 2, 3: Census of Canada, 1941, *General Review and Summary Tables*, Vol. 1, Table 9, 597.
Row 4: difference between 1931 and 1941 columns, Table 4, and Row 1 above.

TABLE 6

DECENNIAL CHANGE IN ONTARIO-BORN BY PROVINCE OF RESIDENCE, 1871-1941
(Thousands of persons[1])

Province of Residence	*1871-1881*	*1881-1891*	*1891-1901*	*1901-1911*	*1911-1921*	*1921-1931*	*1931-1941*
TOTAL							
Ontario-born Population	329.2	260.7	199.4	304.2	273.2	289.1	329.2
Living in Ontario	304.3	204.5	144.7	150.9	239.7	303.5	356.8
Living in Other Provinces	24.8	56.3	54.7	153.3	33.6	14.5	27.6
Prince Edward Island	—	—	—	—	0.1	—	0.1
Nova Scotia	0.1	0.4	0.2	—0.1	0.7	0.3	2.0
New Brunswick	0.1	—	0.3	0.1	0.7	0.1	0.9
Quebec	3.4	5.1	4.8	1.6	13.4	19.8	15.1
Manitoba	19.1	27.5	21.0	5.5	—0.6	—10.6	—11.6
Saskatchewan	0.5	13.1	14.7	80.2	8.8	—18.5	—23.6
Alberta				45.2	11.4	— 9.7	—10.2
British Columbia	1.6	11.1	11.9	21.9	4.9	4.1	— 0.3
Yukon and N.W.T.			2.0	—1.3	—0.3	— 0.1	0.1

[1]Figures may not add to total due to rounding.

Source: Buckley (1962); and Census of Canada, 1941, *General Review*, Vol. 1, Table 21, 653-664.

Table 5 indicates that net migration statistics frequently disguise very high absolute values. The return movement to the Maritimes equalled over half the in-movement from those provinces into Ontario. Even movements into the Prairies reduced the net in-migration total into Ontario of Prairie residents by almost 16,000 persons.

By comparing the total in-migrant population from Table 5, row 1 with the decennial change in Canadian (non-Ontario) born, resident in Ontario (calculated from "Province of Birth" tables in the census, Table 3), an estimate of the combined in-migration of all Canadians not born in the province under consideration, together with foreign-born migrants, can be derived as a residual. This element was particularly large in the migration from Quebec and Manitoba, where it accounted for approximately two-thirds of the total in-movement into Ontario. The residual was lower in Saskatchewan, Alberta and the Maritimes.

(3) *Migration of Ontario-born within Canada*

Considering now the destination of the Ontario-born migrants, one can utilize the census tables "Province of Birth" together with American census material. Table 6 indicates the decennial change in Ontario-born by province of residence, and Figure 4 expresses this graphically. These estimations represent the minimum net movement of Ontario-born to other provinces during each period.

The first federal censuses record that migration westward from Ontario had already begun in the 1870's. It was, however, confined in this decade largely to Manitoba. In the following two decades, movement to the other western provinces began, and this reached a peak in the massive migratory movement in the period 1901 to 1911.[18]

After 1911, however, this movement appears to have begun to wane. In Manitoba, new arrivals of Ontario-born were not sufficiently large to offset the numbers dying, so the census records a decline in the numbers resident in that province. The following decade shows clearly that a return movement of Ontario-born took place.

(4) *Migration of Ontario-born to the United States*

Table 7 relates the net migrational movement from Ontario to other parts of Canada (derived from the census tables of birthplace) to the estimates made earlier of net migrational movements

[18]It should be pointed out that although movements are indicated here as having taken place from Ontario to each province, some movement may be due to re-migration of Ontario-born. Thus the 80,200 increase that was recorded in Saskatchewan between 1901 and 1911 would include any Ontario-born who had moved there from Manitoba where they had previously been enumerated by the 1901 census.

TABLE 7

NET MIGRATION OF ONTARIO-BORN TO UNITED STATES, 1881-1941

(Number of persons[1])

	(1) *Net Migration of Ontario-born from the Province*	—	(2) *Net Migration of Ontario-born to Rest of Canada*	=	(3) *Net Migration of Ontario-born to United States*	(4) *Net Change of Canadian-born in United States*
1881-1891	77,000		56,300		20,700	264,000
1891-1901	105,000		54,700		50,300	199,000
1901-1911	109,000		153,300		— 44,300	24,000
1911-1921	131,000		33,600		97,400	— 80,000
1921-1931	130,000		— 14,500		148,000	161,000
1931-1941	4,200		— 27,600		31,800	

[1]Figures have been rounded to nearest hundreds.

Sources: Column (1): Table 2.

Column (2): difference between numbers of Ontario-born enumerated in other provinces at successive census dates, Table 6.

Column (4): Truesdell.[20]

to and from Ontario alone. The difference between these two sets of figures represents an estimate of the number of Ontario migrants to the United States during this period.[19]

The results, if placed alongside the increases of Canadian-born in the United States as calculated by Truesdell[20] appear far too low. Ontario-born population would have represented a far greater proportion of the total increase of Canadian-born population in the United States. This must point, therefore — providing the United States Census is accepted as reliable — to a probable underestimation of net out-migration from the province, especially during the 19th century when calculations have been based on Ontario's unreliable vital statistics.

If the estimated migration of Ontario-born with respect to the United States is treated as a general indication of trends, three periods are evident:

In the first (1881 to 1901) out-movement of Ontario-born to the United States took place, probably to the mid-western states, which were being settled at this time.

The second period (1901 to 1911) coincided with the opening of the Canadian Prairies and there occurred an influx back into Canada of Ontario-born formerly living south of the border. Studness[21] states that the Canadian emigration to the United States Mid-West had slowed by the 1890's and "by 1900 the tide had turned in favour of American in-migration to Canada." It also coincides with the flattening of the growth curve of Canadians in the United States as noted by Truesdell.

The period after 1911 is characterized by renewed out-flows of population to the United States — particularly heavy in the years of American prosperity during the 1920's, but less so during the 1930's.[22]

Conclusion: Components of Population Changes

The population history of the province appears to fall broadly into three periods: that prior to 1901, the period following this date until 1931 and the period between 1931 and 1941 (Figure 3). The distinguishing features of the first period relate to the declining rate of natural increase, the result of a falling birth-rate which reached a low in the 1890's. Out-migration was responsible for the loss of approximately one sixth and one third, respectively, of the natural increase over the last two decades in the nineteenth century. At no time, therefore, were absolute losses in population recorded between the two decades, though growth in this period was very slow.

The second period was marked by a slowly rising rate of natural increase and in-migration into the province. Natural increase represented the largest component of change, providing between 60 and 70 per cent of the total increases made in the period.

The third period exhibited marked declines in

[19]No "Province of Origin" tables are included in the tabulation of the Canadian-born in the United States Census. It is assumed here that out-movement from Ontario to places outside Canada is almost entirely across the border to the United States.

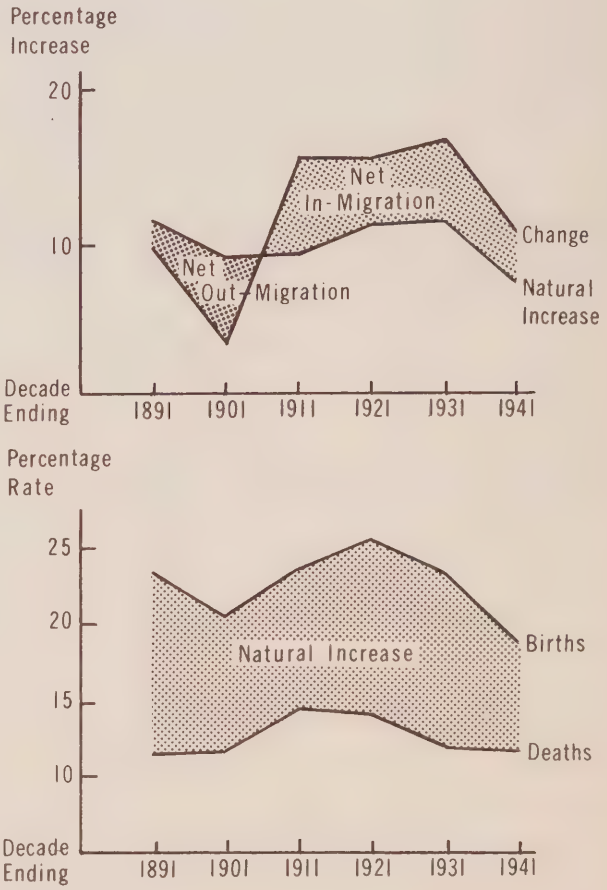
[20]L. E. Truesdell, *The Canadian-born in the United States*, The Relations of Canada and the United States Series (Toronto: The Ryerson Press, 1943).

[21]C. M. Studness, "Economic Opportunity and the Westward Movement of Canadians in the Latter Half of the Nineteenth Century," *Canadian Journal of Economics and Political Science*, XXX (1964), 570-584.

[22]This occurred despite the general decreases of Canadian-born within the United States: there must therefore have been a compensating return movement of Canadian-born back into Canada, but to provinces other than Ontario.

FIGURE 5

COMPONENTS OF POPULATION CHANGE IN ONTARIO, 1881-1941



Sources: Tables and Reports of the Registrar General, Ontario, 1881-1941.

both natural increase (the result of a sharply reduced fertility rate) and in-migration. Consequently, the absolute rate of increase was the lowest recorded. The relationship between the natural increase and migration component remained very similar, however, with natural increase still responsible for 70 per cent of the population increase.

In only one decade, therefore, was natural increase superseded as the dominant element in population change. Population increases in Ontario throughout the period under consideration have been largely the result of internal natural increase. Between the years 1911 and 1941, net in-migration played an important role in supplementing this increase and actual gains in population were greater by between a quarter and a third due to this element. In the period 1881 to 1901 out-migration represented a substantial drain to the province's growth through natural change.

ONTARIO ECONOMIC INDICATORS - SEASONALLY ADJUSTED

(*Figures for Canada)

		1966								1967						
LEADING INDICATORS		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July
Average Weekly Hours Worked in Manufacturing	Number	40.5	40.4	40.6	40.9	40.6	40.8	40.5	40.5	39.8	39.9	40.1	40.3	40.1	40.4	
New Orders in Manufacturing*	$ Million	3,111	3,074	3,046	3,152	3,076	3,114	3,125	3,361	3,079	3,038	2,981	3,094	3,024	3,083	
Housing Contracts	$ Million	52.4	42.7	51.5	58.3	52.4	80.5	40.8	77.4	50.0	68.3	48.9	60.1	89.5	59.6	85.0
Business, Industrial and Engineering Contracts	$ Million	131.3	103.1	114.8	148.2	120.7	128.7	113.2	195.9	122.8	121.0	160.6	104.4	153.8	136.3	133.6
Money Supply*	$ Million	20,176	20,118	20,353	20,632	20,812	21,044	21,169	21,161	21,333	21,722	21,976	22,351	22,604	22,542	22,808
T.S.E. Industrial Index	1956=100	158.9	162.2	162.5	150.0	144.0	147.2	148.1	147.9	153.3	159.6	163.5	163.4	157.2	164.7	174.0
COINCIDENTAL AND LAGGING INDICATORS																
Average Hourly Earnings in Manufacturing	$	2.33	2.35	2.37	2.39	2.41	2.43	2.42	2.41	2.42	2.46	2.47	2.47	2.48	2.51	
Gross National Product*	$ Million		57,620			57,968			59,144			60,152				
Cheques Cashed in Clearing Centres	$ Million	4,417	4,485	4,568	4,516	4,756	4,845	4,723	4,907	5,124	4,921	4,676	5,116	4,916		
Retail Trade	$ Million	645	695	694	708	724	718	727	720	714	702	711	720	707	761	728
Labour Force	000's	2,707	2,721	2,730	2,754	2,751	2,759	2,738	2,746	2,773	2,780	2,817	2,840	2,840	2,848	2,871
Employed	000's	2,639	2,648	2,647	2,669	2,670	2,685	2,665	2,680	2,698	2,705	2,733	2,750	2,752	2,749	2,771
Unemployed	000's	68	73	83	85	81	74	73	66	75	75	84	90	88	99	100
Unemployed as % of Labour Force	%	2.5	2.7	3.0	3.1	2.9	2.7	2.7	2.4	2.7	2.7	3.0	3.2	3.1	3.5	3.5
Wages and Salaries	$ Million	951	964	976	980	989	1,002	1,010	1,018	1,022	1,030	1,034	1,045	1,049		
Industrial Employment Index	1961=100	123.4	124.5	122.6	124.2	123.7	124.4	125.0	125.0	126.3	125.8	125.9	125.4	124.6		
Total Industrial Production*	1949=100	273.7	274.3	272.1	274.6	277.2	280.1	280.6	280.1	278.6	277.7	277.1	280.7	280.2	281.1	
Total Manufacturing		245.1	246.1	245.8	246.5	249.1	250.5	251.1	250.6	247.7	246.7	246.3	249.7	246.9	247.6	
Non-Durables		238.8	240.7	239.7	240.1	239.9	242.3	243.5	245.2	242.7	242.4	241.0	244.5	242.6	244.7	
Durables		252.4	252.4	253.0	254.0	259.8	260.2	260.0	257.0	253.5	251.7	252.5	255.7	251.8	250.9	
Mining		399.6	395.7	377.8	390.1	391.9	410.5	406.3	404.4	411.1	402.5	401.9	411.4	416.1	423.6	
Electric Power and Gas Utilities		503.5	504.8	495.6	513.7	519.3	515.0	523.1	525.5	530.8	546.6	541.9	539.1	565.7	556.7	
Primary Energy Demand (Annual Rate)	BKWH	48.57	48.57	47.18	48.45	47.92	48.67	49.91	50.83	49.65	51.25	50.41	50.59	51.86	50.15	51.03
ECONOMIC INDICATORS NOT SEASONALLY ADJUSTED																
Domestic Exports*	$ Million	910.0	849.8	833.2	925.1	888.6	878.6	954.1	899.1	926.5	803.7	827.8	872.5	1,039.2		
Imports for Consumption*	$ Million	913.9	901.1	736.7	808.3	803.2	919.6	943.0	861.5	893.2	765.7	864.2	972.4	1,044.5	935.9	
Foreign Exchange Reserves*	US $ Million	2,412	2,342	2,315	2,281	2,244	2,223	2,242	2,236	2,238	2,194	2,203	2,188	2,195	2,169	2,183
Price Index of Industrial Materials*	1935-39=100	264.3	263.0	262.6	260.6	258.8	256.2	255.6	254.7	253.5	253.8	252.2	252.5	254.6	256.7	253.0
Business Failures	Number	73	90	56	58	63	56	54	57	71	58	59	73	40	59	
Business Failures - Liabilities	$ Million	5.5	6.5	2.5	7.9	2.9	2.0	2.7	4.7	4.2	4.0	2.7	2.6	3.3	2.9	

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DEPARTMENT OF ECONOMICS AND DEVELOPMENT

Hon. Stanley J. Randall, Minister *Stuart W. Clarkson, Deputy Minister*

OFFICE OF THE CHIEF ECONOMIST

H. Ian Macdonald, Chief Economist

CONTENTS

THE ONTARIO ECONOMY

Production

Latest statistics available indicate a softening in the production of steel, one of the important elements in overall production. During September, production fell to 744,052 tons, down from 821,332 tons in September 1966. In August, steel production was 818,894 tons, reflecting an increase of 8.2 per cent over 12 months ago. To some extent this can be seen as a response to the slackened pace of non-residential construction and to the conditions created by the construction strike affecting structural steel. This has now brought total steel ingot production for 1967 to 7,167,131 tons, down 4.9 per cent from last year.

Motor vehicle production picked up considerably with the start of the new model year, partly in response to the threatened shortages resulting from the U.S. Ford strike. Preliminary figures indicate production of 33,109 units in August and 75,235 units in September, 168 per cent and 31 per cent respectively ahead of the corresponding months in 1966. This has brought total motor vehicle production for 1967 to 679,685 units, 3.7 per cent ahead of the January to September period of 1966.

August statistics for Canada's seasonally adjusted Index of Industrial Production (based on 1949 = 100), at a level of 284.2, indicate a 0.4 per cent increase from July. The entire gain came from manufacturing, particularly durables, as mining and electric power and gas utilities both declined over the month.

Non-ferrous metal products made the most significant contribution to the 1.0 per cent gain in durable manufactures, rising 9.0 per cent in one month. This gain, occurring mainly in smelting and refining, was the combined result of recovery from both labour disputes and from production cutbacks in July. Non-metallic mineral products further contributed to the gain, rising 6.1 per cent. Motor vehicle production, climbing 5.8 per cent, helped bring the overall increase in transportation equipment to 2.8 per cent. Offsetting these gains somewhat were declines in wood products (0.2 per cent), iron and steel products (0.7 per cent) and electrical apparatus and supplies (4.5 per cent). The decline in this last group was primarily a result of reduced production of black and white television sets.

In non-durables, a substantial increase in synthetic textiles and silk production resulted in a 10.4 per cent increase in the textiles group. This was the major factor accounting for the 0.5 per cent gain in total non-durables. Otherwise six of the remaining 10 categories declined over the month, with the four increases coming in chemicals and allied products (2.4 per cent), products of petroleum and coal (1.9 per cent), printing, publishing and allied industries (0.8 per cent) and paper products (0.2 per cent).

The mining index fell 0.6 per cent over the month, as non-metals and fuels both declined. Partially compensating was a 0.8 per cent increase in metal production, led by a 7.7 per cent increase in nickel production.

A decline of 0.2 per cent was recorded in electric power and gas utilities, as electric power declined 0.4 per cent and gas rose 0.7 per cent.

Total statistics comparing the first eight months of 1967 and 1966 show a 2.7 per cent increase in the overall Index of Industrial Production this year. Electric power and gas utilities were up 10.9 per cent, followed by mining which rose 6.1 per cent. The 1.1 per cent gain in manufactures was made up of a 1.9 per cent increase in non-durables and a 0.1 per cent gain in durables.

Manufacturing shipments in July, the latest month for which statistics are available, were valued at $1,491.6 million, 4.8 per cent above July 1966. The total for the January to July period, at $11,399.0 million, reflects an increase of 2.4 per cent from 1966.

Construction

Southam Building Guide recorded reduced values for construction contract awards in Ontario in August and September compared with last year.

Values of $181.2 million and $170.4 million for August and September were 8.9 per cent and 7.2 per cent lower respectively than in 1966. This is in large a reflection of the generally reduced levels of industrial and institutional construction activity. In September, for example, institutional construction awards were down 42.8 per cent from 1966, largely due to the very large awards made for schools and colleges last year. Industrial awards were down 74.5 per cent, as manufacturing and processing plant construction awards dropped from $36 million to $8.6 million. Business construction awards remained virtually unchanged. There was a significant rise in residential – particularly apartment – awards, however, as the September value rose from $43.6 million in 1966 to $72.3 million in 1967, a rise of 65.8 per cent. Engineering awards were up 19.0 per cent.

"Big Jobs" for the months of August and September, each valued at $1.0 million or more, totalled over $102 million. Some are listed below:

LARGE CONSTRUCTION AWARDS PLACED RECENTLY IN ONTARIO

Location	*$ Million*	*Description*
Brampton	3.3	Reformatory
Burlington	1.1	Plant
Cobourg	1.0	Warehouse addition
Cornwall	3.0	Hospital addition
Fergus	1.8	School addition
Guelph	1.0	University building
London	1.5	School
London	1.0	Apartments
Markham Twp.	1.2	Plant
Nepean Twp.	1.1	Housing services
North York Twp.	3.5	Office building
Oakville	1.2	Water treatment plan
Oakville	1.0	Bridge
Oshawa	2.0	Department store
Ottawa	18.6	Initial work on federal office building
Ottawa	1.3	College addition
Peterborough	3.8	College addition
Port Arthur	1.0	University building
Sudbury	1.2	Apartments
Thorold	2.2	Plant
Thorold Twp.	4.6	Marine project
Toronto (metro)	31.4	Apartments
Toronto (metro)	6.0	Schools
Windsor	1.0	Shopping centre
Various locations	4.1	Provincial highway projects

Despite the lower value of awards in August and September, the total for 1967 to date has been larger than the corresponding period last year. In the January to September period this year Ontario's total construction contract awards reached $1,761 million, 8.1 per cent more than the $1,629 million of the same period in 1966. Reduced total values were recorded in business construction awards, down 34.4 per cent to $135.9 million; industrial awards, down 25.3 per cent to $242.4 million; and institutional awards, down 9.1 per cent to $349.6 million. Buoying up the overall total has been the significant 65.6 per cent increase in engineering awards, rising from $251.7 million to $416.9 million; and the 33.7 per cent increase in residential awards, from $461.1 million in 1966 to $616.2 million in 1967.

In residential construction activity the actual number of dwelling unit starts has been showing marked improvement in recent months. In Ontario centres with populations of 10,000 and over the number of starts reached 6,128 in August and 6,622 in September (reflecting gains of 56.5 per cent and 75.9 per cent over the same months of 1966). This brought total starts for the nine month period to 45,217, up 35.0 per cent from last year. September starts in Toronto at 4,346, brought the cumulative total to 24,969, almost 50 per cent higher than last year. The cumulative totals and percentage changes for other major centres in Ontario were as follows: Hamilton, 3,786 units, up 28.2 per cent; Ottawa, 2,329 units, down 13.5 per cent; Kitchener, 2,008 units, up 10.6 per cent; London 1,932 units, up 29.9 per cent; St. Catharines, 1,236 units, up 68.2 per cent; and Windsor, 1,004 units, down 5.8 per cent.

Dwelling unit completions numbered 4,618 in August and 4,644 in September, bringing the total to date for 1967 to 35,553 – down 23.2 per cent from the January to September period of 1966. All of the above-mentioned centres with the exception of Windsor have had fewer completions this year.

At September 30, 1967, there were 45,113 dwelling units under construction in urban Ontario, 16.4 per cent more than the 38,763 units under construction one year earlier.

Retail Sales

Sales at the retail level in Ontario showed marked improvement during August and September, after having barely achieved a three per cent annual increase in July. As a result of sales of $687.1 million in August and $740.3 million in September, representing gains of 6.7 per cent and 8.8 per cent respectively from 12 months earlier, the cumulative

value of Ontario's retail sales rose to $6.34 billion, 5.5 per cent higher than in the corresponding 1966 period.

Canada enjoyed the same 8.8 per cent increase in sales for September, bringing the cumulative national figure to $16.81 billion, an increase of 6.5 per cent from last year.

On an individual group basis, Ontario's variety stores experienced the largest yearly gain in September, increasing sales by 14.9 per cent. These stores have led all others on a cumulative basis as well, moving 13.4 per cent ahead of the nine month total for 1966. Motor vehicle dealers, one of the largest groups, were 8.8 per cent ahead for September, but were still down 0.2 per cent on a cumulative basis from 1966. Other groups which recorded substantial annual gains for September were women's and men's clothing (13.1 per cent and 11.7 per cent respectively), general stores (12.8 per cent) and hardware stores (11.4 per cent). Jewellery stores, only 1.0 per cent ahead for September, experienced the smallest gain.

ECC's Fourth Annual Review

The Canadian economy has achieved a remarkable increase in output since 1961 mainly through an expansion of the labour force and a drawing in of economic slack. To maintain a satisfactory rate of economic growth it is now necessary for the productivity of existing factors of production to increase.

The Economic Council of Canada's fourth annual review released in September recommends that monetary and fiscal policies – the major demand policies – steer the economy to potential economic growth over the medium-term future rather than simply be a reaction to emergent short-term developments. Demand policies should facilitate monetary expansion that avoid large surges of new money creation, and should prevent the increase in overall government expenditures from outpacing revenue gains. Supply policies must promote efficiency in the use of the factors of production and upgrade these factors by greater research and education. Adult education and training programs should be expanded, and regional income disparities reduced.

The Council's 273-page review identifies main trends in the present economy and makes forecasts for the future. The four major concerns now are: rising government expenditures, problems of urbanization, scale and specialization in manufacturing and population and labour force growth.

Government Expenditures

Total government expenditures at all levels of government rose by 35 per cent between 1963 and 1966. (The comparable U.S. figure was only 25 per cent in spite of the Vietnam war.) The continuing increase in government spending in 1966 and 1967 is now outpacing the rise in tax revenue. Governments must eliminate waste in existing programs and develop techniques for: determining objectives and priorities; evaluating the impact of different government programs in relation to their cost; and coordinating spending among the three levels of government. All expenditure programs must be subjected to cost-benefit analysis and ways developed to evaluate the usefulness of alternative expenditure patterns. And finally, governments should not hesitate in discontinuing those programs which are clearly obsolete.

Problems of Urbanization

While the Council's recommendations for controlling expenditures are applicable to all levels of government, its examination of urban growth is particularly relevant to Southern Ontario and the Ontario Government. It foresees continuing rapid increases in urban population (Ontario's will increase by 42 per cent over the next 15 years), urban area and urban problems. The impact of this growth can be reflected in continuing housing shortages, worsening air and water pollution, transportation and traffic deficiencies, and increasing territorial requirements both for development and for recreation.

To meet these challenges all across Canada long-range comprehensive planning of urban space is essential. The Council calls upon all provinces to strengthen legislative provisions to bring about effective planning and the execution of development plans.

To help solve the major problem of the shortage of housing (over 750,000 new housing units will have to be constructed over the four years to 1970), the Council recommends that the federal sales tax on building materials be revised and public authorities acquire land for residential use in ways that would prevent rising land prices.

The concomitant of urban population growth has been rural population decline. Rural adjustment schemes, such as those in the ARDA program, must be more clearly defined and evaluated if they are to achieve their aims.

Scale and Specialization in Manufacturing

The recurrent theme of productivity appears again in the study of Canadian manufacturing. Although

relevant Canadian wages are 25 per cent below the U.S., product prices are 10 per cent higher. Canadian manufacturing productivity is about one third lower than the U.S. because most Canadian plants have a greater diversity of products and shorter production runs, and Canadian tariffs raise the cost of imports, making it profitable for Canadian plants to produce even small quantities of the product.

The recommended remedy is tariff reduction on manufactured products, allowing Canada free access to larger markets, at the same time exposing it to more international competition.

Population and Labour Force Growth

Demographic changes in Canada are more dramatic now than in any other industrial country. The Council expects a total population of over 25 million by 1980, with the total labour force expected to increase by 43 per cent, or by 3½ million from 1965 to 1980. Canada has, and will continue to have, a young population – about half of it under 25. This implies a wave of new marriages, raising the number of households from 5.1 million to an expected 7.5 million by 1980.

The average annual growth of 3.2 per cent in the labour force will be even faster than that of the population as a whole. This is the result of a young population, high immigration rates, and increasing female participation. With the particularly rapid expansion of the labour force, it should make it relatively easier to provide for the collective needs of the population.

However, the urban pressures will be enormous. While total population will rise by 26 per cent between now and 1980, urban population will rise by 40 per cent, and large-city population (over 100,000) by 60 per cent. The largest absolute gain will be in Ontario: it will have 2.3 million more people in its cities and towns. Toronto, Hamilton and Ottawa are likely to be the fastest growing cities.

NEW PUBLICATION: **THE ECONOMIC PROCESS**

In 1966 the Department of Economics and Development published *The Economy of Ontario*, a booklet providing simplified economic material directly related to Ontario.

The Department has now published a companion piece to the first booklet entitled *The Economic Process*. This booklet, written by Beryl Joyner of the Economic Planning Branch, provides a simple description of the economic process and how it works. It first provides a concept of the economic process in its simplest form, and then elaborates this concept in such a way that the relation of each topic discussed to the whole process is apparent.

Financed jointly by the departments of Economics and Development and Education, the booklet has been distributed in limited numbers within the government and to secondary schools, Colleges of Applied Arts and Technology, libraries and the news media.

The booklets are available to the public at a cost of 50¢ each. For copies write to:

Economic Booklets,
Information Services Branch,
Department of Economics and Development,
950 Yonge St., Toronto 5.

TOWARDS A THEORY OF PROVINCIAL-MUNICIPAL GRANTS[1]

MALCOLM MARTINI
Research Planner

Discussions of grants have tended to be of two types: purely theoretical comments or very practical studies of particular systems of grants.[2] Admittedly there are a number of studies[3] which have attempted to wed theory and practice, but this has usually been at the federal-provincial level of grant distribution. At the provincial-municipal level the bent is definitely toward the practical.

Given the option, a practical approach is preferable. It is also necessary if a theory which can pass empirical tests is to evolve. Nevertheless, this writer feels that the infusion of theory into the study of grants would be beneficial. Accordingly this paper deals with the theoretical side of grants.

DEFINITIONS

A grant is a transfer of money, services, or material from a donor, for example, the Province of Ontario, to a receiver, in this case any of the nearly 1,000 municipalities in the province. A grant formula describes the terms under which grants are paid. A grant formula's properties are what differentiate it from other grants. For instance, the formula may be conditional or unconditional. A grant formula may therefore be classified by its properties. The effects of the grant formula are the results both on the donor and the recipient. Does the donor achieve his purpose? How is the recipient's expenditure pattern affected? These are some of the important questions relating to the effects of the grant formula. As will be shown here, it is impossible to make any statements about grant formulae unless their properties are known and the financial situation of an individual municipality is understood.

THE PROPERTIES OF GRANT FORMULAE

There are seven basic properties of grants: *conditionality, generality, variability, equity, method of payment, size* and *demand*.[4] The first and second properties are generally lumped together, but separating them here brings out a very specific meaning to the much-used term 'conditional'. Conditionality here refers to the conditions which the recipient must meet before he is to receive a grant. Generality refers to the scope a municipality has in spending the money it receives.

There is a tendency to equate conditionality and generality. But as has just been shown, conditionality refers to the regulations which must be complied with if the grant is to be made, while generality relates only to the class of items for which grants will be authorized. For instance under the Family Benefits Act (formerly the General Welfare Assistance Act)[5] the province pays 80 per cent[6] of the cost of fuel for people who pass a means test. The conditional element is that the municipality pay the other 20 per cent and maintain records in accordance with the regulations prescribed under the Act. The general aspect is that the grant be made for fuel. Undoubtedly in some cases this is a fine distinction but it is nevertheless a necessary one.

A third property of a grant formula is its variability. Variability refers to the amount of the grant paid with differing municipal contributions and by different municipalities at different times. In turn a formula may range from variable to invariable or fixed. The variation may be with current expenditure and be of theoretically infinite amount, or it may vary up to a maximum expenditure beyond which it does not change. Many construction grant formulae are of this variable type. Under the Homes for Retarded Children Act,[7] the province pays construction costs of "$2,500 per bed or 50 per cent, whichever is the lesser." A grant formula may also call for variations in payment in accordance with

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[1]This paper derives largely from the first chapter of the author's M.A. thesis entitled *Welfare Grants to Ontario Municipalities*, Carleton University, Ottawa, 1967. The author, formerly employed with the Regional Development Branch in the Office of the Chief Economist, is now with the firm of Proctor, Redfern, Bousfield and Bacon.

[2]An example of the former is A. William's *Public Finance and Budgetary Policy* (New York: Praeger, 1963); an example of the latter is the Saskatchewan Local Government Continuing Committee's *Local Government in Saskatchewan* (Regina: Queen's Printer, 1961); another example is the recently published *Report of the Ontario Committee on Taxation* (Toronto: Queen's Printer, 1967).

[3]Among them D. V. Smiley's *Conditional Grants and Canadian Federalism* (Toronto: Canadian Tax Foundation, 1963).

[4]The first five have been outlined in D. N. Chester's *Central and Local Government* (London: MacMillan, 1951).

[5]RSO 1960, Chapter 164, RRO 1960 207, sec. 13, and SO 1966, Chapter 54.

[6]Fifty percentage points of its payment are made by the federal government.

[7]SO 1962-3, Chapter 57, sec. 5.

the amount of service provided. There are few of these in the legislation. The closest is the Welfare Units Act[8] which authorizes the payment of 50 per cent of the salary of the administrator if a welfare unit is established. However, this act has never really been operative. In addition to being paid by per cent or by each unit, a grant may be fixed. That is, whether a service is provided or not, a fixed or what is sometimes called a block grant is made.

The fourth property is equity. Does the grant vary according to the municipality's ability to pay? Does it take into account the need of the municipality for a particular service? One example of a formula with the equity property is the Municipal Unconditional Grants Act[9] which makes larger per capita payments to larger municipalities on the premise that the larger municipalities have greater per capita expenditures.

A fifth property of a formula is the method of payment. Payment may be in cash and/or in kind. In Ontario payment is generally made in cash, the closest thing to a payment in kind being joint or shared programs with provincial aid in the form of technical or professional assistance.

All of the five major properties just mentioned — conditionality, generality, variability, equity and method of payment — may vary in intensity. For instance the variability of a formula is greatest in a formula which varies as either a per cent of service costs or with the quantity of the service provided. Chester calls such a formula a directly variable grant formula. Less variable are formulae which vary directly but only up to a certain cost or quantity. These formulae are referred to as limited and variable. The least variable of the grant formulae are those which give only a fixed amount of money. Some writers call these block or fixed.

The equity property also varies in strength. In this article, equity can be roughly classed as high, medium, low, or non-existent. There are very few examples of truly equitable grants, making this particular property most notable for its absence.

Payment can be made in cash, in kind, or in some combination of the two.

The remaining two properties of grant formulae — two of the most important — are size and demand.[10] Size refers to the proportion of the costs of the service provided for by the grant. Demand relates to the relative position of the service in the municipality's overall service demands: municipal demand for libraries is relatively low while demand for schools is high. As with the other five properties, size and demand may vary in intensity.

Grants therefore have seven basic properties, making it possible to describe a grant formula as a large, conditional, specific, non-equitable, cash grant formula of low demand and limited variability.

THE EFFECTS OF GRANT FORMULAE

A grant formula can affect either of the two agents. It can affect the donor, for instance, by its success or failure to achieve his aims. It can affect the recipient in a number of ways, only one of which is the much decried alteration of his expenditure pattern. Before delving into the relationships between various types of grant formulae and their effects it would be useful to establish the broad range of effects.

The Effects on the Donor

The most important effect on the donor is the achievement of his original intention. This effect, which may be called the purpose effect, has many facets. The donor may wish to relieve the burden of taxation on local property, to equalize costs among municipalities, to encourage a particular program, or to establish a minimum service standard; again the purpose may be to preserve municipal autonomy, or to give a local touch to the administration of the service. These are the reasons for reducing the financial burden, but they assume that the service is to be offered basically by the municipality.

The making of grants is as much a part of the process of political give and take as any other part of the governmental and bureaucratic process. To assume that the compromise which evolves has a clear-cut purpose — and the same one originally intended by the original instigator — would be wrong. The only way the donor can be sure that the compromise which evolves is satisfactory is by knowing what effects the formula has had on both the service and the municipality. When these effects are known it will be possible to assess the performance of the system.

The Effects on the Recipient

The effects on the donor are of interest in this study only insofar as it is necessary to know the purpose of a grant formula to know whether or not its intention has been fulfilled. Of more immediate

[8]RSO 1960, Chapter 428.
[9]RSO 1960, Chapter 259.
[10]In subsequent chapters of the thesis it was shown that unless the grant made was very large (at least 80 per cent of the total costs exclusive of administration to the municipality), a municipality would not accept the grant *unless its demand for the service was high.*

importance to this paper is the question of the effects on the municipalities. It is possible to argue that if a municipality takes the grant, it agrees to all the ramifications involved and is willing to accept the consequences at the polls or elsewhere. Such an assumption presumes that the municipality has a choice in acceptance and also that it knows the consequences of its actions. It also presumes that it has some sort of bargaining power with the province. None of these free market conditions obtain; first of all a municipality has very limited financial resources, and second, it is the creature of the agent with whom it is bargaining. A systematic breakdown of the possible effects a grant formula may have is therefore in order. Basically there are six effects.

1. *The Income Effect:*

Every grant which a municipality accepts will normally increase its income. However if the expense associated with the acceptance of the terms of the grant formula exceeds the amount of the grant, then in financial terms, though not necessarily in services, the municipal government may be poorer. In most cases the effect is positive but depending on the conditions outlined above and on the effects which follow, it may be negative.

2. *The Substitution Effect:*

Despite the conditions in the grant formula, it does not follow that the money which is granted to a municipality will be wholly allocated to that service. If for instance the service is already well established, the grant may be tantamount to a gift. That is, the money will be used on the service but municipal funds hitherto allocated to that service will be shifted to other purposes. The operation of this effect will be a function of the municipality's existing commitment and attitudes toward the grant-aided service.

3. *The Expenditure Effect:*

This refers to the amount of money spent on the service or the total amount of money spent by the municipality. When it refers to the amount spent on the service it will be known as the service expenditure effect, and when it refers to the amount spent by the municipality on the whole it will be known as the total municipal expenditure effect.

The next three effects are more difficult to measure, if indeed they can be, but they are really the crux of all arguments about grant formulae.

4. *The Service Quality Effect:*

It does not necessarily follow that an increase in expenditures will result in higher service quality. The substitution effect may work so that the service will not even be extended. All that may happen is that there may be procedural or accounting improvements which may assist administration without assisting the service. There are three parts to the service quality question. The first relates to the extension of the service and may be called the service extension effect. This refers to the question of whether or not more of the service is offered. The second effect is service quality itself. In the case of welfare, advice through a counselling service may be just as important as money. The third category is service administration. This has some overlap with the service quality effect insofar as better administration may improve the quality of the service rendered to the public. This refers to whether or not better accounting and other procedures are adopted, that is, more simplified ones, placing less of a burden on administrators.

These three sub-effects are obviously subject to considerable interpretation. The service extension effect is straightforward enough, but the question of improvement of service either in terms of the people served or administratively raises a number of problems. One authority has pointed out that one of the most important aspects of grant formula administration is the increase in communications between senior and local governments with respect to methods and need.[11] This kind of improvement is difficult to document. In terms of administrative procedures, it depends to a large degree on which side one is looking from. There is a difference between a procedure stressing financial accountability which the grantor may favour, and one placing its emphasis on service which the municipality may prefer.

5. *The Equalization Effect:*

This refers to the amount of consideration a grant formula gives to the differing needs and resources of the municipalities who might use it, and is similar to the equity property alluded to previously. Equity is in part a function of the need for the service, and it is not at all clear that the need for the service bears any relation to wealth. The larger is a municipality, the larger is the number of different types of expenditures it is likely to make. The greater the variety of services it offers, the less likely is one service to be able to increase its share of total municipal expenditure and the more likely are the income and substitution effects to be high. That

[11]Smiley, *op. cit.*, page 40.

is, a large and wealthy municipality is more likely to reap greater financial benefits from any form of grant than a smaller less wealthy one. The reasons for this will be considered later.

The question of equity is then reduced to the question of whether or not large municipalities are in greater need of funds than smaller ones. The question is one that can only be answered by looking at the total expenditure requirements and fiscal capacity of a given municipality at a given time. Presumably therefore, the equity content of a grant formula increases with the degree to which the total municipal revenue picture is considered. No less important is reference to the need for a particular service. Nothwithstanding the consideration of the total municipal financial picture, a formula can easily aid a service which the municipality may feel needs less aid than others. Yet the grant might be accepted either because the municipality feels it can shift some expenditures into other services or because it actually wants the service although less than it wants another service. A truly equitable formula should be so designed that a municipality will qualify for a grant only if it needs the service or the increase in the service that the grant formula is aiding.

6. *The Autonomy Effect:*

This particular effect has probably received more attention than any of the others. It is closely related to the substitution effect in that it is concerned with the extent to which a municipality is forced to accept the grant, its conditions and the use of the money for the purpose intended. Will, for instance, the acceptance of the formula bring the municipality to adopt new administrative procedures, or have the procedures which are adopted already exceeded the requirements of the formula? Will the municipality have to divert resources from other uses to finance the shared part of the grant? Can the municipality say no to accepting the conditions of the formula? Again it appears that size and need for the grant-aided service are the key determinants.

THE RELATION BETWEEN EFFECTS AND PROPERTIES

The seven basic properties, six major effects, and the effects on the donor, can be synthesized to show what types of grant formulae are most likely to produce what effects. In the remainder of this article such an attempt will be made.[12] Size and demand show up as properties which condition the importance of all other properties. The validity of this argument will be apparent as the discussion of properties and effects proceeds.

Most municipalities would argue that they know what is best in the way of services for their constituents, and that therefore, any grants which are made should be made unconditionally. This argument has some validity which can be demonstrated with the aid of Figure 1, which is an indifference curve diagram variously used by economists to show preferences that consumers have between goods or groups of goods as the relative costs of the goods either in dollars or some other measure changes. Here the quantity of a cluster of services Y is measured on the vertical axis and those of service X on the horizontal. The line AB represents the various combinations of X and Y which the municipality can have at a given revenue level. The curves (indifference curves) D_1 to D_3 represent the preferences a municipality would have for various combinations of X and Y. These curves will be concave to the origin for almost all municipal services because municipalities are likely to prefer a larger variety of services, some of which may be relatively expensive, to a large amount of only one service even though it may be obtained relatively cheaply. In the economist's terms, the marginal rate of substitution of services Y for service X will increase as the quantity of X that the municipality has increases.

Given the indifference curves set in Figure 1 and the budgetary constraint of AB, a municipality will most satisfy its desires for services by choosing an amount OE of Y and OF of X. At this point the ratio between what the municipality views as the "costs" of the two service sets will be exactly equal to the preference the municipality has for one set of services over the other.

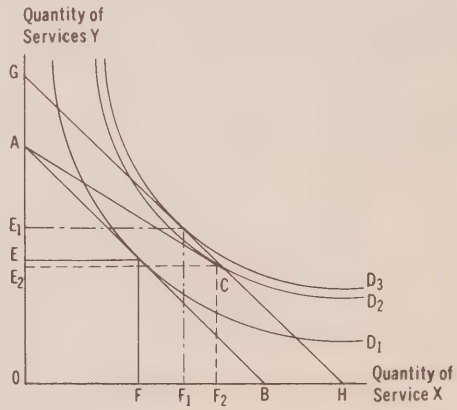

Figure 1

[12]The method used will draw on the procedures laid out by Williams in *Public Finance and Budgetary Policy* and Chester in *Central and Local Government*.

An unconditional grant would have the effect of an increase in municipal revenue, moving AB outward, for instance, to GH, enabling the municipality to purchase more of both X and Y. In Figure 1 the municipality would choose to have OE_1 of Y and OF_1 of X. A conditional grant which gave an equivalent sum to the municipality but only for service X would have the effect of changing the budget line AB to ACH; that is, the price of X relative to Y would fall but only up to the point of the limits of the total amount of the grant. (The grant then is variable and limited but the effect of the limitation is similar to an effect resulting from conditionality if it is assumed that the conditionality places limits on the freedom of municipal action.) The municipality would choose a combination of X and Y equal to OF_2 and OE_2 respectively in which OF_2 is more than OF_1 but OE_2 is less than OE_1. It will be on an indifference curve D_2, lower than D_3 for the unconditional grant, indicating that in terms of its preferences its position has changed for the worse.

But against the municipal view that a conditional grant is always inferior to an unconditional grant is the point that its position is worsened only if its preferences are such that the indifference curve for the conditional grant is above C, because at C or below there is no difference between the unconditional and conditional grant possibilities. Thus a municipality is better off with an unconditional grant only if it has to buy more of X or Y than it would have with the conditional grant. It should be noted, however, that so long as the amount it receives is the same from both grants a municipality is never worse off with an unconditional grant and sometimes better off than it is with a conditional grant.

It is now possible to outline some of the relations between effects and conditionality. The income effect can apply when the grant is either conditional or unconditional. It will always apply to an unconditional grant and may apply to conditional grants. Unless the standard established involves the maintenance of the grant-aided service at a level sufficient to prevent a shifting of funds, the substitution effect can also apply. It should be remembered that the ability to substitute will be greater in those municipalities where the service is already offered.

Large urban municipalities may have higher substitution effects than small rural ones because services in the former are more likely to have reached provincial standards. The substitution effect will be lowest when the grant is 'small' — that is when the contribution that the province makes is low relative to the amount the municipality has to pay — and when demand is high; variation in either case may not be direct. The income and substitution effects obviously condition the effect on service expenditure. If the substitution effect is low, expenditure will probably rise.

The effect on service quality is also a function of the substitution and income effects. But it is also a function of the administrative requirements that are established under the conditions of the formula. This effect depends on the quality of the conditions and the subsequent administration of them. Nevertheless from the point of view of the province a conditional grant is more likely to guarantee a given performance level than an unconditional one. This presumes two things. First, that the conditions are significant, that is, they do not require procedures that are already in existence and a level of service already attained; and second, that the procedures they do prescribe attain the purpose intended.

The equalization effect has very little to do with conditionality. The autonomy effect, the key argument in most discussions of grants, does relate to conditionality, but only insofar as the expenditure and/or administration pattern is altered by the acceptance of the grant. An unconditional grant will not affect autonomy. A conditional grant may. In a line of argument similar to that on substitution, it can be argued that autonomy is affected more, the poorer and smaller is the municipality, for such municipalities may have not only little choice in accepting the grant to begin with but are also likely to have small substitution effects. For some municipalities greater autonomy in the sense of freedom from the pressures of taxpayers or recipients of the service may result. If the municipality can say that by reaching prescribed provincial standards its service is at a satisfactory level, it may avoid having to make further expenditures. The desirability of such a situation is questionable.

In conclusion, then, the question of conditionality is relevant only to the extent that the expenditure or the administrative pattern of the municipality is altered by acceptance of the grant.

The effects of generality are very much like those of conditionality. If it is irrelevant to the donor where the money goes, then so long as a certain performance standard — whatever it may be — is attained, generality becomes a neutral factor and conditionality is the only relevant one. But if it is clearly specified that the money must be used for a given service then the question of substitutability becomes relevant. As was noted earlier, larger muni-

cipalities will probably be able to shift expenditures and therefore will have their autonomy less affected. In terms of the expenditure effect, the results will be the same as for conditionality. Service quality is also similar to conditionality, but because the donor will probably check to make sure that the money was spent on the service, it is more likely that the quality of the service will improve or at least change after a grant is applied to it. This is of course subject to the constraint that quality initially is lower than the grant formula would have prescribed. Total expenditure will be affected by the grant in much the same way as the conditional property affected it, while the equity effect will again be inoperative.

Most grant formulae are variable to some degree. Earlier it was noted that variable grants could be broken into a spectrum of block, service unit, limited, and directly variable formulae. The effects on the municipality will vary with the type of variability. However, some general statements may be made. Figure 2 shows how the *total* amount a municipality spends can rise with the amount it receives from the province in a conditional grant formula.

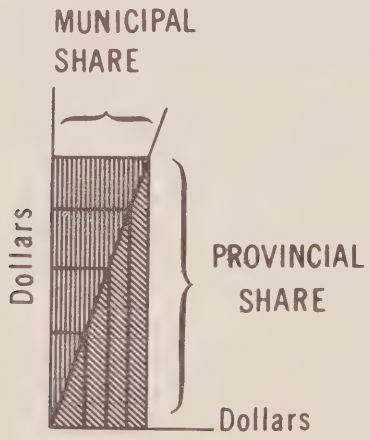

Figure 2

The more the municipality spends on the grant-aided service, the more it receives from the province. Any grant enables the municipality to spend more without having to pay the full costs. Therefore, what has been said about the income and substitution effects earlier also applies here. However, since the grant is variable the municipality is likely to have a less strong substitution effect because the temptation to get more of a service, especially if it can get it at little cost to itself, will be very great. Because a variable grant increases with the municipality's willingness to contribute and because in many cases the amount of the service can be greatly increased without much affecting the rates of municipal taxation, the municipality is likely to exploit the grant to the fullest extent. The donor will realize this and fairly extensive administrative controls are likely to result. These controls will probably be the more extensive the higher is the share of the province in the service. If, as in the case of Ontario welfare grants, the federal government makes a substantial contribution to the provincial share, the controls may be even tighter. Remembering the great temptation on the part of the municipality to take full advantage of a variable grant formula, and the low substitution effect, the effect on municipal autonomy of variable grants can be considerable.

As with the specific grant, the associated increase in provincial control is likely to mean an improvement in service quality. There will be more people concerned with the expenditure and administration and possibly better liaison with people more knowledgeable in the administration of the service.

There is a possibility of an equalization effect, especially if the grant is large and the demand for it high. Again such an effect is subject to the degree to which a municipality is able to shift the expenditure on the grant over to other items. The effect is similar to that of the unconditional property. Note that the equalization effect will be lower if the formula is based on unit costs of providing the service than if it is based on average costs, for the municipality will get less as its contribution increases. This assumes that the marginal costs of providing the service are declining with increases in the amount of the service offered. Marginal costs in welfare are related to staff. Administrative costs will decline until additional staff is acquired. With staff acquisition, costs will rise by the amount of salaries paid.

A limited grant may have an adverse effect on a municipality by preventing it from realizing economies of scale. It seems possible that the common provincial practice of using a formula of $X or whichever is the lesser per unit assures that the province and not the municipality benefits from economies of scale. Limitations, then, serve to insure that on a unit cost basis no grant formula benefits one municipality more than another, but they may at the same time remove what automatic equalization effects may be built into a variable grant formula.

The last important grant formula property is that of equity. With equity there is a dilemma. A municipality which offered a service before a grant formula was made available would get no reward for its initiative while one which lacked initiative would be rewarded by being assisted.

A grant concerned with equity traditionally is a general, unconditional and variable one. Such theories as those supporting Graham's[12] municipal equalization grants are correctly based on the notion that a grant formula should form part of a total system of municipal financial assistance designed to restore autonomy to municipalities in those fields where they should have autonomy. The point here is that it does not follow that a specific conditional grant cannot have as much of an equity property as its categorical opposite. The real question is on what to base the equity formula.

Population and assessment are two often suggested criteria. But a formula based on population in Ontario would assume that the needs and costs of municipal services and municipal capacity (per capita) are identical, which is unlikely. Therefore variations in social characteristics such as age, family size and personal income have to be considered. Similarly population densities are relevant because different densities mean that service costs will vary. More pipes will be needed to sewer a large area with the same size population than a small one; more time will have to be spent by social workers in getting to their cases. Yet conversely, a large but low density area may not need sewers or welfare at all. Even if the assessment criterion were technically adequate to measure municipal fiscal capacity, that is, if there were uniform assessment throughout the province, this criterion would suffer because it only considers one aspect of fiscal ability. The modern preference for progressive taxation which is not a feature of the property tax makes reliance on assessment criteria even more dubious.

Therefore the solution to equity is a complicated one. A truly equitable grant formula must take into account the income of the municipality, including the wealth of its inhabitants, the need for particular services and the varying costs of these services. Any system which ignores these factors, or which uses only partial measures, such as population or assessment, is something less than equitable.

SUMMARY

A general knowledge of what the effects of a grant formula might be, makes it possible to suggest what the legislators and their assistants had in mind when they originally made them up.

If a grant is unconditional, fixed, and general it can be assumed that the legislators wanted to assist municipalities without infringing on their autonomy. If it has some sort of equity element tacked on, we know that they wished to help poor municipalities. If, on the other hand, the formula is conditional, specific and variable, we can assume that the major purpose is to see that a particular service is offered at a certain minimum standard, presumably high, throughout the province; there may of course be an equity element, but the legislators then are likely to be largely unconcerned with the question of municipal autonomy. From the exclusion of an equity principle in a grant formula, a number of other important implications arise. The most important is that there might be no attempt to treat municipal finance as a total question involving the coordination of public services. Again, theoretically, the conclusion may be that the grantor considers the service more important than the municipal autonomy which it appears to transcend.

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[12]J. Graham, *Fiscal Adjustment and Economic Development* (Toronto: University of Toronto Press, 1963).

ONTARIO ECONOMIC INDICATORS - SEASONALLY ADJUSTED

(*Figures for Canada)

		1966						1967								
LEADING INDICATORS		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
Average Weekly Hours Worked in Manufacturing	Number	40.6	40.9	40.6	40.8	40.5	40.5	39.8	39.9	40.1	40.3	40.1	40.4	40.3		
New Orders in Manufacturing*	$ Million	3,046	3,152	3,076	3,125	1,325	3,361	3,079	3,038	2,981	3,094	3,024	3,117	3,263		
Housing Contracts	$ Million	51.5	58.3	52.4	80.5	40.8	77.4	50.0	68.3	48.9	60.1	89.5	59.6	85.0	62.0	88.4
Business, Industrial and Engineering Contracts	$ Million	114.8	148.2	120.7	128.7	113.2	195.9	122.8	121.0	160.6	104.4	153.8	136.3	133.6	125.9	85.0
Money Supply*	$ Million	20,393	20,614	20,766	20,950	21,122	21,143	21,345	21,724	22,002	22,340	22,613	22,542	22,808	23,277	23,805
T.S.E. Industrial Index	1956=100	160.5	150.0	144.0	147.2	148.1	147.9	153.3	159.6	163.5	163.4	157.2	164.7	174.0	170.8	171.1
COINCIDENTAL AND LAGGING INDICATORS																
Average Hourly Earnings in Manufacturing	$	2.37	2.39	2.41	2.43	2.42	2.41	2.42	2.46	2.47	2.47	2.48	2.51	2.55		
Gross National Product*	$ Million	- - - - - - -		57,848	- - - - - - -		59,124	- - - - - - -		60,180	- - - - - - -		61,516			
Cheques Cashed in Clearing Centres	$ Million	4,568	4,516	4,756	4,845	4,723	4,907	5,124	4,921	4,676	5,116	4,916	5,159	5,134		
Retail Trade	$ Million	694	708	724	718	727	720	714	702	711	720	707	761	728	749	773
Labour Force	000's	2,730	2,754	2,751	2,759	2,738	2,746	2,773	2,780	2,817	2,840	2,840	2,848	2,871	2,868	2,849
Employed	000's	2,647	2,669	2,670	2,685	2,665	2,680	2,698	2,705	2,733	2,750	2,752	2,749	2,771	2,771	2,760
Unemployed	000's	83	85	81	74	73	66	75	75	84	90	88	99	100	97	89
Unemployed as % of Labour Force	%	3.0	3.1	2.9	2.7	2.7	2.4	2.7	2.7	3.0	3.2	3.1	3.5	3.5	3.4	3.1
Wages and Salaries	$ Million	976	980	989	1,002	1,010	1,018	1,022	1,030	1,034	1,045	1,051	1,053	1,059		
Industrial Employment Index	1961=100	122.6	124.2	123.7	124.4	125.0	125.0	126.3	125.8	125.9	125.5	124.8	124.3	124.7		
Total Industrial Production*	1949=100	272.1	274.6	277.2	280.1	280.6	280.1	278.6	277.7	277.1	280.7	280.0	280.7	283.0	284.2	
Total Manufacturing		245.8	246.5	249.1	250.5	251.1	250.6	247.7	246.7	246.3	249.7	246.9	247.3	249.4		
Non-Durables		239.7	240.1	239.9	242.3	243.5	245.2	242.7	242.4	241.0	244.5	242.7	245.0	244.1		
Durables		253.0	254.0	259.8	260.2	260.0	257.0	253.5	251.7	252.5	255.7	251.8	250.0	255.7		
Mining		377.8	390.1	391.9	410.5	406.3	404.4	411.1	402.5	401.9	411.4	415.4	422.3	425.3		
Electric Power and Gas Utilities		495.6	513.7	519.3	515.0	523.1	525.5	530.8	546.6	541.9	539.1	563.2	556.7	561.9		
Primary Energy Demand (Annual Rate)	BKWH	47.18	48.45	47.92	48.67	49.91	50.83	49.65	51.25	50.41	50.59	51.86	50.15	51.03	51.80	51.27
ECONOMIC INDICATORS NOT SEASONALLY ADJUSTED																
Domestic Exports*	$ Million	833.2	925.1	888.6	878.6	954.1	899.0	926.5	803.7	827.8	872.5	1,039.2	1,009.1			
Imports for Consumption*	$ Million	736.7	818.2	803.2	919.6	942.8	861.5	893.1	765.6	863.8	972.3	1,044.5	941.3	915.5	835.6	
Foreign Exchange Reserves*	US $ Million	2,315	2,281	2,244	2,223	2,242	2,236	2,238	2,194	2,203	2,188	2,195	2,169	2,183	2,198	2,221
Price Index of Industrial Materials*	1935-39=100	262.6	260.6	258.8	256.2	255.6	254.7	253.5	253.8	252.2	252.5	254.6	256.7	253.0		
Business Failures	Number	56	58	63	56	54	57	71	58	59	73	40	59	52	26	34
Business Failures - Liabilities	$ Million	2.5	7.9	2.9	2.0	2.7	4.7	4.2	4.0	2.7	2.6	3.3	2.9	3.2	4.1	2.6

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Hon. Stanley J. Randall, Minister — *Stuart W. Clarkson, Deputy Minister*

OFFICE OF THE CHIEF ECONOMIST

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THE ONTARIO ECONOMY

Recently published GNP statistics for the third quarter of 1967 have provided further evidence of the general slowdown in the economy. Canada's GNP, at $61,872 million (seasonally adjusted at annual rates), was only slightly higher than the $61,592 million recorded in the second quarter. When price increases are discounted this actually reflects a small decline in GNP, the first since the third quarter of 1966.

The main forces of expansion during this quarter were personal demand, which rose $800 million or 2.1 per cent from the previous quarter; residential construction (up 9.2 per cent); and business inventory accumulation, which reversed its recent trend toward a diminishing rate of accumulation (in part due to a rise in auto inventories in preparation for the impact of U.S. auto strikes). Countering these positive forces were declines in investment in plant and equipment, government expenditure on goods and services, and (merchandise) exports.

Gains on the income side were mainly in labour income, which rose two per cent principally because of higher average earnings, and in net corporate profits. Accrued net income of farm operators declined significantly.

Prices increased less than one per cent in the third quarter, lower than in recently preceding quarters. The largest gain was in the index for consumer expenditure, up 1.4 per cent. Most other categories advanced at slower rates than previously; in the case of construction the rate was much slower largely due to lower wage increases.

Signs of the slowing in the economy have been apparent even beyond the third quarter of 1967. In October and November unemployment in Ontario was recorded at 3.8 per cent and 3.3 per cent respectively. In November the labour force was at 2,849,000, the same as in September; but employment at 2,755,000 was down 5,000 compared with that month.

Construction contract awards in Ontario, as reported by the *Southam Building Guide*, reached $201.1 million in October and $189.0 million in November (not adjusted for seasonal variation). The higher October figure actually represented a decline of 6.4 per cent from the corresponding 1966 figure, due to sharp declines in institutional and industrial awards and despite a two-third increase in the value of residential contracts. Awards in November, though lower than in October, were 13.5 per cent higher than in November 1966; residential, business and engineering gains were responsible for this.

"Big Jobs" – each valued at $1.0 million or more were valued at approximately $83.1 million in October and $57.2 million in November. Some are listed below:

LARGE CONSTRUCTION AWARDS PLACED RECENTLY IN ONTARIO

Location	*$ Million*	*Description*
Alexandria	1.5	High school addition
Etobicoke Twp.	1.7	Warehouse
Guelph	3.0	School
Gwillimbury East Twp.	1.6	Housing
Hamilton	6.5	Apartments
Kingston	2.2	College addition
Kingston	2.0	Hospital nurses' residence
Kitchener	1.8	Apartments
Kitchener-Waterloo	3.6	Provincial expressway
London	2.0	Housing
London	1.5	Apartments
Milton	1.0	School addition
North York Twp.	1.0	Office and warehouse
Oakville	1.6	Dam
Ottawa	2.0	Office building addition
Ottawa	1.4	Apartments
Pembroke	1.5	Home for aged
Peterborough	4.5	Apartments
Port Arthur	8.1	University building
St. Catharines	2.0	School
Sault Ste. Marie	1.0	School addition
Smiths Falls	2.9	Hospital additions
Sudbury	4.0	College addition
Teck Twp.	5.0	School
Toronto	3.5	Industrial mall
Toronto	2.0	Medical building
Toronto (metro)	32.9	Apartments
Toronto (metro)	6.1	Schools & college buildings
Toronto Twp.	5.0	Shopping centre
Trenton	1.0	Hospital addition
Waterloo	2.5	Office building addition
Whitby	2.0	Hospital addition
Woodstock	1.7	Home for aged
Various locations	5.1	Provincial highway contracts

October and November statistics have now brought the cumulative total for all awards in Ontario to $2,154.7 million, $144.6 million or 7.2 per cent higher than in the January-November period of 1966. Engineering and residential construction have been the propellants, the other categories having declined from last year.

In Ontario's residential construction, the number of dwelling starts (not adjusted for seasonal variation) reached 6,209 in October – up 35.7 per cent from one year earlier – and then moderated to 4,790 starts in November, an annual gain of 3.8 per cent. These gains were recorded despite the absence of a Fall program of direct CMHC loans to builders this year. For 1967 to date, starts have risen 31.7 per cent, from 42,685 in 1966 to 56,216 this year.

Dwelling completions, up 52.8 per cent and 8.4 per cent in October and November respectively, have now brought the cumulative 1967 total to 46,976 units – still down 15 per cent from 1966

Canada's industrial production, according to the seasonally adjusted Index of Industrial Production, declined 0.8 per cent from September to October, falling to 282.5 (based on 1949 = 100).

The decline was entirely concentrated in manufacturing which fell 1.5 per cent. Mining rose 0.7 per cent and electric power and gas utilities 2.2 per cent. A major portion of the decline in manufacturing can be attributed to the direct effects of labour disputes in wood products and the indirect effects of the U.S. auto strikes.

Steel production, for which November statistics are available, continued to fall short of last year's monthly figures. In November, 772,734 tons of steel ingots were produced, 1.5 per cent lower than 12 months earlier. For the year to date production was 8,780,987 tons, representing a decline of 4.2 per cent from last year.

Manufacturers' shipments from Ontario were valued at $1,718.7 million in October, a rise of 1.7 per cent from October 1966. As a result the 10-month total now is $16,354.8 million, 2.8 per cent higher than in 1966.

1967 Supplemental Budget

In a move intended to combat inflationary pressures in the economy, Finance Minister Sharp on November 30 brought down a supplemental budget, highlighted by selective tax increases.

– Effective January 1, 1968, a special personal income surtax of 5 per cent (of the amount by which basic tax exceeds $100) will be imposed up to a limit of $600. For a $7,000-a-year family man with two children, this means an increase of $29 in personal income tax.

– The instalment payments of corporate income tax are to be moved ahead two months, thereby increasing revenue in fiscal 1968-69.

– The refundable five per cent tax on corporation cash profits imposed last year is to be repaid beginning in June, 1968. Repayment of one month's receipts will be made every second month through to May, 1970.

– Effective December 1, 1967, the excise duty on all alcoholic beverages is increased approximately 10 per cent; the excise duty on distilled spirits rises from $13 per proof gallon to $14.25, and on Canadian brandy rises from $11 to $12.25.

– The excise duty on beer is raised four cents a gallon to 42 cents.

– The excise tax on wine with low alcoholic content is increased 2½ cents a gallon; for other wines it is increased five cents a gallon.

– The tax on cigarettes is increased 1/10 of a cent per package or two cents for a pack of 20 cigarettes.

– The excise tax on cigars is increased from 15 per cent of the manufacturer's selling price to 17½ per cent. On cut tobacco and pipe tobacco the increase is from 80 cents a pound to 90 cents a pound.

In addition to these tax changes, other measures were announced:

– Capital spending, subsidies and lending programs (including housing loans) are to be reduced.

– Growth of the civil service is to be restrained.

– Capital loans to Air Canada are to be curbed.

While acknowledging the contribution of the Carter Royal Commission Report, the Minister stated that tax reforms will not involve the radically different approach of the Carter Royal Commission Report, but will be more in the nature of reforms of the existing tax structure.

The budget deficit for the current fiscal year, forecast at $740 million in June was now revised to $785 million, based on expenditures of $9,900 million and revenues of $9,115 million. For 1968-69 a deficit of $80 million was predicted, with expenditures and revenues of $10,300 million and $10,220 million respectively.

Devaluation of the British Pound

On November 18, the British government announced a 14.3 per cent devaluation of the pound intended to solve the country's recurrent balance of payments crises and remove the mounting pressure on the

pound. In support of this move, which brought the pound down to U.S. $2.40 from U.S. $2.80 (and to $2.57 from $3.00 in Canadian dollars), several other measures were taken:

— the Bank of England rate for borrowing was raised from 6½ to eight per cent;

— defence spending cuts of more than $300 million were announced;

— Corporation tax was raised from 40 to 42½ per cent; and

— the export rebate was abolished.

In addition the British government made clear its intention to keep a close watch on wages, prices and dividends, restrict bank advances to borrowers other than exporters, and cut back public spending in general.

Within a few days 21 other countries announced currency devaluations of varying degrees: Barbados, Bermuda, Ceylon, Cyprus, Denmark, Fiji, Gambia, Guyana, Hong Kong, Israel, Jamaica, Malawi, Malaysia, Malta, Mauritius, Nepal, New Zealand, Republic of Ireland, Sierra Leone, Spain, and Trinidad-Tobago.

ONTARIO IN CONFEDERATION

"We have come to a period in the history of this young country where premature dissolution seems to be at hand. What will be the outcome? How long can the present fabric last? Can it last at all?"

Sir Wilfrid Laurier's question is more than seventy years old. Yet it might have been posed yesterday, a fact which may indicate that Canadians are the victims of chronic anxiety about 'the State of the Union'. More likely, the question may be viewed as an inevitable result of the tension inherent in any federal system. If such a system is to work effectively, it requires frequent reappraisal.

Whatever our interpretation of the question, it is still germane today, and its tone is just as urgent. Indeed, the changes in Canada's political, economic and cultural character, particularly over the last decade, have added new dimensions to the challenge of maintaining a viable federalism.

Ontario's Role

As the wealthiest and most populous of Canada's ten provinces, with some fifty per cent of the nation's manufacturing capacity, Ontario has a heavy stake in the future of Canada, a future which has lately been clouded by severe strains in the federal system.

Because of its concern, the Government of Ontario considered it necessary to convene the Confederation of Tomorrow Conference held in Toronto last November. In his opening statement to the Conference Mr. Robarts aptly summarized Ontario's attitude:

> For a number of years we have been aware of and concerned about the developing tensions within Canada, and, more particularly, about the direction in which we were headed. It seemed to us that not only were we tending to ignore the implications of the cultural complexity of this country, but we were also making a series of decisions that subtly, but nonetheless forcibly, were changing the political and economic character of Canada . . . these decisions were often in response to short-term, specific problems rather than the result of a set of commonly agreed principles and a knowledge of clearly defined purposes . . . I can only say that these trends preoccupied our thoughts to the point where we felt some initiative, some action, had to be taken.

Ontario Advisory Committee on Confederation

Well before the Confederation of Tomorrow Conference, Ontario had been quietly reassessing its role within Confederation. In January, 1965, the Government announced the appointment of the Ontario Advisory Committee on Confederation. Composed largely of prominent Ontario scholars, the Committee was established to advise the Government especially on the problems pertinent to Ontario's role in Confederation. Meeting on a monthly basis, it has conducted much of its work in three sub-committees: one dealing with constitutional questions, a second with economic and fiscal problems, and a third with questions of a cultural and educational nature.

The constitutional sub-committee has discussed such questions as the need for and method of amending the Constitution, the role and structure of the Supreme Court and the role of a province in international relations.

The economic and fiscal sub-committee performed an advisory role in the development of Ontario's position at the Tax Structure Committee

meeting, called in September, 1966, to consider the quinquennial federal-provincial fiscal arrangements. Apart from this advisory role, the sub-committee has focussed its discussions primarily on the economic and financial implications of the establishment of a national capital district, and on the administrative problems of managing our water resources.

The cultural sub-committee has done considerable research into the question of French-language education in Ontario; the use of French in the province in other areas such as the judicial system, local government, and departments and agencies of the Ontario Government; and the possibility of creating bilingual districts within Ontario. It should also be noted that a report by this sub-committee formed the basis for the establishment last year of a cultural and educational exchange program administered by the Ontario Department of Education.

Much of the work of the Committee was gathered together in a three-volume collection of studies entitled *Background Papers and Reports* which was tabled in the Legislature last spring and which was published in a single-volume edition last October.

The Secretariat

Following the appointment of the Advisory Committee, the Federal-Provincial Affairs Secretariat was formally established within the Ontario Civil Service in 1966 as a branch in the Office of the Chief Economist, Department of Economics and Development. In December, 1967, that Office became part of the Treasury Department and the Chief Economist, Mr. H. I. Macdonald, became Deputy Provincial Treasurer (Finance and Economics). He remains Chairman of the Advisory Committee and the Secretariat will continue to report to him.

As originally defined, the Secretariat's role is a dual one: it is responsible for initiating studies within the area of federal-provincial affairs, and for co-ordinating many of the federal-provincial and interprovincial relations of Ontario government departments and agencies.

Within this context, it has developed certain specific responsibilities. As the secretariat to the Advisory Committee, it prepares the agenda for the monthly meetings, undertakes to write the drafts for a variety of research projects, and handles requests for information. It is also engaged in preparing background studies and research papers necessary for the consideration of an Ontario position in the current discussions on the future of the Canadian federal system. In addition, during the recent Confederation of Tomorrow Conference, both the Advisory Committee and the Secretariat were given special responsibility for contacts with other provinces and for the preparation of the Conference agenda. The Secretariat also prepared a set of five background papers on the main themes of the Conference setting out many of the proposed options for reform of the federal system.

The Secretariat also translates and prepares a monthly summary of selected items from the Quebec and French-language press in Canada, and from time to time prepares summaries (if necessary, in translation) of various books and articles for distribution to the Advisory Committee and within the Government.

The Confederation of Tomorrow Conference

In a sense, the Confederation of Tomorrow Conference signalled 'the end of the beginning'. It climaxed two years of study on those problems of Canadian federalism especially affecting the Ontario Government. At the same time, the Conference opened the way for a detailed series of discussions on the goals, the structure and the institutions of Canadian federalism.

The aims of the Conference reflected Ontario's own awareness of the need for a thorough reappraisal of Confederation. First, the public nature of the Conference was designed to help Canadians be more aware of and better understand the complexities of their country. Second, the Conference was intended as merely the first of a series of discussions on the present problems and future shape of Canadian federalism. In line with this latter aim, the Conference concluded with the establishment by unanimous resolution of a continuing Committee on Confederation composed of the Premiers of Nova Scotia, Quebec, Ontario and Alberta whose function it would be:

> . . . to analyze the proceedings and results of the Confederation of Tomorrow Conference and explore the subjects and the form for future discussion [and to] pay particular attention to the problems of constitutional change, regional disparities, language practices and rights.

Ontario has thus contributed to the continuing debate on Confederation. This process, the recent publication of the first volume of the Royal Commission on Bilingualism and Biculturalism, and the forthcoming conference called by the Federal Government to discuss a wide range of constitutional problems have made Canadians everywhere more conscious of the need to adapt their federal system to the demands of their second century.

ONTARIO'S DEMAND FOR INDUSTRIAL AND AGRICULTURAL MACHINERY TO 1976

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INTRODUCTION

This study[1] represents a preliminary analysis of the structure and the potential long-term prospects for the machinery industry in Canada and Ontario. It is based largely on statistical data and tabulations relating to domestic production, the trading position, and domestic demand for industrial and agricultural machinery, with emphasis on recent economic trends and developments.

The first section provides a brief survey of the industry's historical development with special reference to the Ontario scene. Subsequent sections examine in detail the structure of the Canadian and Ontario markets for farm and industrial machinery.

To assess the actual and potential size of the Ontario market and its degree of dependence on foreign supply, statistically estimated time series of provincial imports and exports of machinery have been derived from available national data using statistically consistent and optimally unbiased allocators as a basis for the estimating procedure.[2]

The final section of the report provides long-term projections of demand for machinery in Canada and Ontario to 1976. Forecasts at the national level are consistent with the recent macro-economic projections by the Economic Council of Canada while the provincial estimates largely reflect recent trends and anticipated structural changes in Ontario's economy.

HISTORICAL BACKGROUND

Development of the Farm Machinery Industry

During the first half of the nineteenth century small companies gradually emerged which were to replace local blacksmith shops as the major producers of agricultural implements in Canada. However, the further evolution from small scale to factory-based manufacturing operations was impeded by the fragmentation and small size of the Canadian market.

A relatively small Canadian market, scarce capital, and a lack of research facilities limited the industry's ability to pioneer innovations in Canada, making it almost entirely dependent on the United States for technical guidance and the development of new products. Yet in spite of the advantages enjoyed by the United States industry, almost no imports of farm machinery entered Canada until about 1875. Several factors were responsible for this: the almost totally insignificant size of the Canadian market; the lack of adequate transportation facilities between the two countries; the still elementary nature of the implements themselves; the need for local repair and servicing facilities; and the lower cost in Canada of labour and certain materials. In addition the protection of the 10 per cent tariff established in 1847 further discouraged imports, leaving the Canadian farm implements industry to develop – partially under licensing agreements with American firms – almost free from competition.

The 1861 census shows 46 companies, with combined annual sales of $413,000, engaged primarily in the manufacture of agricultural implements. Development of the industry up to this date was significantly aided by the expansion of the market for North American grain in the early nineteenth century. From 1861 to 1871 the Canadian industry grew very rapidly, and by the end of this period there were 252 companies in existence with total sales of $2,685,000. The appreciable increase in output was generated by factors as diverse as the disruptive effects of the Civil War on the American economy, the relatively high price of wheat and the comparative shortage of farm labour in that period. The growing popularity of harvesting machinery was important too; by eliminating the slowness of reaping and binding grain by hand, this machinery increased the number of acres a farmer could effectively cultivate.

From its inception the industry exhibited a clear tendency to concentrate in Ontario. In 1871, Ontario accounted for output of farm machinery valued at $2,292,000, about 85 per cent of the Canadian total.[3] In the last quarter of the nineteenth century the

[1]The author acknowledges with appreciation the contribution of Mrs. O. I. Mico and Mrs. P. S. Fromstein, economists with the Applied Economics Branch, in assisting with the preliminary research and preparing the statistical tabulations for this project.

[2]The recent DBS compilation of Ontario exports for 1965, though not fully comparable in commodity and time coverage, appears to be essentially in agreement with these estimates.

[3]In recent years, about 90 per cent of Canada's output of agricultural machinery has been produced in Ontario.

Canadian industry gradually concentrated in the southern part of the province, remaining there since that time.

Canadian production of agricultural machinery continued to increase rapidly between 1875 and 1929. The key factor in this period was undoubtedly the great development of the western wheat economy, itself made possible by a substantial increase in the use of machinery in farming operations.

CANADIAN MARKET FOR FARM MACHINERY, SELECTED YEARS, 1881-1929
($ Million)

	Domestic Production	*Imports*	*Exports*	*Domestic Demand*
1881	4.4	0.2	—	4.6
1891	7.5	0.2	0.3	7.4
1901	9.6	1.9	1.7	9.8
1910	20.7	5.1	4.3	21.5
1920	50.3	23.1	12.2	61.2
1925	24.8	11.2	12.4	23.6
1929	40.7	31.8	20.1	52.4

The industry's expansion was facilitated, at least in the earlier part of this period, by tariff protection. As part of the National Policy, the import duty on agricultural machinery was raised from the level of 17½ per cent imposed in 1874 to 25 per cent in 1879, and then to 35 per cent in 1883. In 1894, the tariff was lowered to 20 per cent, a level which probably still gave a significant amount of protection to the Canadian industry. Thereafter the tariff was reduced a number of times until, by 1922, the rates on most items of agricultural machinery ranged from six to 7½ per cent. They remained at this level until 1930.

It was during the 1875-1929 period that the major large-scale farm machinery companies in Canada developed. In both Canada and the United States a number of mergers took place, with the result that "full-line" companies emerged, producing both seeding and harvesting machinery. By far the most important of these amalgamations in Canada was between the Massey Manufacturing Company and A. Harris, Son and Company, subsequently involving the takeover of a number of smaller firms. The Cockshutt Plow Company also expanded in this period and in 1909 acquired an interest in the Frost and Wood Company, a producer of harvesting machinery. Largely because of the 20 per cent tariff prevailing at that time, the International Harvester Company established a fully-owned subsidiary plant in Hamilton, Ontario. By 1914, Canadian farm machinery production was mainly in the hands of these three large and diversified firms located in Ontario.

Despite existing tariff protection, imports of agricultural machinery grew appreciably during this period. Partially offsetting the tariff protection was the freight rate advantage that the American industry, located west of Chicago, enjoyed on shipments to western Canada. Not until 1919 were freight rates from eastern Canada made competitive. Also, the fact that the Canadian season for selling agricultural machinery came after that in the United States led American producers to sell surplus machinery in Canada at low prices rather than carry over to the next year.

The development of tractors, the vast majority of which were (and still are) manufactured in the United States, gave further impetus to the growth of imports as Canadian firms found it difficult to sell farm implements without an accompanying line of tractors. Thus, Massey-Harris purchased the J. I. Case Plow Company of Wisconsin and thereafter used its facilities for production of tractors for both the American and Canadian markets. In order to compete in the domestic market, Cockshutt arranged to import tractors made by the American firm of Allis-Chalmers.

Canadian exports of farm machinery, largely to Europe, Commonwealth countries and South America, also increased rapidly between 1875 and 1929. After 1913, when the United States tariff on imported agricultural machinery was discontinued, Canadian firms began to supply a portion of the American market. However, exports to the United States remained a relatively small sector of total Canadian exports until after the second world war.

The depression of the 1930's along with severe drought conditions in western Canada resulted in a sharp decline in output of farm machinery in Canada. Between 1928 and 1933, production decreased by about 88 per cent, a far more serious contraction than occurred in comparable industries such as primary iron and steel, motor vehicles and industrial machinery. Canadian exports of farm machinery declined from $20 million in 1929 to $1.5 million in 1933 as other countries introduced quotas and higher tariffs to protect their own industries and retaliate against restrictions imposed on their exports.

The recovery of the industry in the latter half of the 1930's was relatively slow and incomplete; by 1939 total output had risen only to about 50 per cent of its 1929 level. However, by the end of World War II, the farm machinery industry was in a relatively stronger position than in 1939. The effect of

restrictions on the production of agricultural machinery imposed during the war was more than offset by government contracts which allowed the industry to make such improvements as extending manufacturing facilities and rehabilitating plants and equipment. Thus the industry was quite well-equipped to handle the heavy demand of the post-war period, a demand due not only to the postponement of purchases during wartime but also to post-war high wages, inflationary trends, scarcity of labour, and rising world demand for North American agricultural products.

The removal of the Canadian tariff on agricultural machinery in 1944 created free trade conditions between Canada and the United States. As a result, companies with plants on both sides of the border proceeded to integrate their production facilities. These structural changes, together with the development of the self-propelled combine in Canada, led to a substantial increase in Canadian exports to the United States: in the peak year 1952, over 80 per cent of Canada's $105.4 million of exports were shipped to the United States.

During the early post-war period there were great gains in Canadian production. In 1952 the value of agricultural machinery produced reached $194.7 million. However, in the next few years production fell off substantially, and by 1954 it was valued at only $113.1 million.

Throughout this entire period the value of imports continued to exceed the value of domestic production.

CANADIAN PRODUCTION AND IMPORTS OF FARM MACHINERY, SELECTED YEARS, 1939-1954
($ Million)

	Domestic Production	*Imports*
1939	16.0	20.9
1946	54.0	68.4
1949	169.6	177.2
1952	194.7	197.3
1953	159.9	209.1
1954	113.1	143.2

Development of the Industrial Machinery Industry

In the earlier part of the nineteenth century Canada's industrial development was such that the non-agricultural equipment required consisted essentially of hand tools largely manufactured in blacksmith shops serving small local markets. However, as the demand for relatively more complex tools and machinery grew, small local companies in the towns and cities emerged as focal points for the production of industrial machinery and equipment in Canada.

During this early period imports of machinery had to supplement domestic production to meet the needs of the Canadian market. It is estimated that at the time of Confederation, the major portion of the machinery sold in Canada was imported.

Domestic production grew significantly in the later years of the nineteenth century and the early part of the twentieth century. As the Canadian economy expanded, more and more complex and sophisticated machinery was required. Companies producing industrial machinery tended to grow in size and to concentrate in larger urban centres close to the industries they served. As a result in this period southern Ontario gradually assumed a leading position in the production of industrial machinery.

The industry suffered a major setback with the fall of capital expenditure during the depression of the 1930's. Between 1928 and 1933, production decreased by about 64 per cent. However this was not as severe as the decline experienced in such related industries as agricultural machinery, primary iron and steel, and motor vehicles. The industry had not yet completely recovered when World War II broke out, the 1939 value of production being approximately one-third lower than the level registered in 1929.

During the war production increased greatly as Canadian industrial machinery was used to help meet the requirements for military equipment. Canadian industries had to undergo major re-tooling, thus creating a heavy demand for industrial machinery and equipment. Between 1939 and 1949 output increased at an average annual rate of about 9.6 per cent, reaching $153.3 million by 1949.

Domestic production increased at an even more rapid rate between 1949 and 1952. Output of industrial machinery grew at an average annual rate of 18.2 per cent over the three-year period, reaching $251.6 million in 1952. In 1953 and 1954 the industry suffered a slight decline, but recovered in 1955.

In spite of the large gains in production in the post-war period, imports increased in significance, satisfying between 61 per cent and 67 per cent of domestic demand during the period 1949 to 1953. About 87 per cent of the foreign supply came from the United States with most of the remainder originating in the United Kingdom. It is not surprising that a large volume of imports has come from countries which, mainly because of their relatively large

CANADIAN MARKET FOR INDUSTRIAL MACHINERY
1949-1953

	Domestic Production	Imports	Exports	Domestic Demand	Imports as % of Domestic Demand	Exports as % of Domestic Production
	($ Million)				%	
1949	153.3	234.5	20.8	367.0	64	14
1950	165.9	235.9	14.2	387.6	61	9
1951	216.8	364.1	25.3	555.6	66	12
1952	251.6	404.3	30.9	625.0	65	12
1953	248.5	432.5	32.9	648.1	67	13

domestic markets, can take advantage of the lower costs associated with mass production.

In contrast to the high level of imports, exports accounted on average for only about 13.5 per cent of production in both the 1935-1939 and 1949-1954 periods. This relatively low volume of exports can be explained largely by the difficulty the Canadian industry has had – as a high-cost producer with a small home market – in competing with such high-volume countries as the United States, the United Kingdom and West Germany.

In 1953 there were 325 firms in Canada primarily engaged in the production of industrial machinery of which 13 were producers of machine tools. Ontario and Quebec together accounted for 256 of these firms. Ontario's 196 industrial machinery producers accounted for about 60 per cent of the industry's total number of production units in Canada. In terms of gross value of production, three Ontario cities – Toronto, Hamilton and Windsor – accounted for over 46 per cent of total Canadian output.

The industry in both Canada and Ontario has been characterized by a preponderance of small companies. In both cases about two thirds of all firms employ less than 50 persons, and over 80 per cent employ less than 100. Small firms have been able to operate efficiently because of the custom nature of many of the products, the relatively small size of the domestic market, and their ability to provide local installation and servicing.

Much of the machinery produced in Canada has been custom-built to the needs of individual customers. There is some tendency for the Toronto and southern Ontario region to specialize in the lighter type of machinery and equipment such as materials handling equipment, elevators, roller bearings, transmission machinery, woodworking machinery, chemical equipment and baking machinery.

THE MARKET FOR MACHINERY

Farm Machinery: the Canadian Market

During the period 1957 to 1964 Canadian production of farm machinery increased from $118 million to $244 million, an average annual growth rate of approximately 10.9 per cent. Although any comparisons between 1957 and 1964 must be qualified since these two years represent very different phases of the business cycle, it is probable that this very high rate of growth represents a significant upward secular trend in domestic production of farm machinery.

CANADIAN MARKET FOR FARM MACHINERY
1957-1964

Year	Canadian Production of Farm Machinery	Imports	Exports	Domestic Demand	Imports as % of Domestic Demand	Exports as % of Canadian Production
	($ Million)				%	
1957	118.0	202.8	71.6	249.2	81.4	60.7
1958	129.2	198.0	101.3	225.9	87.7	78.4
1959	166.2	273.6	122.4	317.4	86.2	73.6
1960	152.1	229.2	89.4	291.9	78.5	58.8
1961	139.0	231.6	85.2	285.4	81.2	61.3
1962	140.8	253.2	91.2	302.8	83.6	64.8
1963	182.8	324.0	114.0	392.8	82.5	62.4
1964	244.0	372.0	140.4	475.6	78.2	57.5

Imports of farm machinery into Canada in every year of this period were much larger in value than domestic production of similar machinery. Although imports fluctuated considerably until 1961, they tended to increase over the period as a whole. Between 1957 and 1964, the value of farm machinery imports grew from $203 million to $372 million, an average annual increase of 9.0 per cent.

During the same period Canadian exports of farm machinery virtually doubled, rising from $71.6 million in 1957 to $140.4 million in 1964. By far the largest growth occurred in the years 1963 and 1964, reflecting largely the beneficial effects of the devaluation of the Canadian dollar in 1962. When viewed in relation to domestic production, the value of exports was quite significant throughout the period, ranging from a low of 57.5 per cent to a high of 78.4 per cent.

Domestic demand for farm machinery, amounting to $249.2 million in 1957, fluctuated around its upward secular trend, declining sharply in 1958 and again in 1960 and 1961. This cyclical pattern reflected the trend of farm income to a considerable degree. However, by 1964 the value of domestic demand had reached a new peak of $475.6 million, bringing the average annual rate of growth from 1957 to 1964 up to 9.7 per cent.

Given the level of Canadian exports, a comparison of imports and domestic demand provides an indication of the importance of foreign sources of supply. Throughout the 1957 to 1964 period, imports on average accounted for about 82 per cent of domestic requirements, and ranged as high as 88 per cent. It is probable that the existence of free trade in agricultural machinery between Canada and the United States and the resultant integration of production facilities in the two countries have been the major cause of Canada's heavy dependence on imports. In spite of the very large increase in domestic production which took place over this period, there is very little evidence of a trend toward progressive import replacement.

Farm Machinery: the Ontario Market

Ontario's output of farm machinery constitutes an extremely large part of total Canadian production. In the years 1957 to 1964, an average of about 88 per cent of all farm machinery produced in Canada was manufactured in Ontario, although this proportion has been declining since 1959.

Despite a period of temporary decline between 1959 and 1962, production of agricultural machinery in Ontario increased from $106.7 million in 1957 to $201.7 million in 1964, an average rate of growth of 9.5 per cent each year.

Unlike the situation prevailing in Canada as a whole, imports into Ontario were in each year substantially less than the value of the province's own production. Between 1957 and 1964 the value of imports generally increased, but at a rate significantly below that for the whole of Canada.

Between 1957 and 1964 the value of exports from Ontario increased at an annual rate of 8.7 per cent, rising from $64.7 million to $116.1 million. Throughout the period exports accounted for a substantial proportion – an average of 64.7 per cent – of Ontario's output.

The available total supply of farm machinery in Ontario has been calculated by adding local production in Ontario and imports into the province, subtracting exports and net interprovincial shipments from Ontario. While it was not possible to determine

ESTIMATED ONTARIO MARKET FOR FARM MACHINERY
1957-1964

Year	*Ontario Production of Farm Machinery*	*Imports into Ontario*	*Exports from Ontario*	*Available Supply*	*Flow to (—) and from (+) Other Provinces*	*Estimated Demand in Ontario*	*Imports as % of Available Supply*	*Exports as % of Production*
	($ Million)						*%*	
1957	106.7	50.9	64.7	92.9	—30.4	62.5	54.8	60.6
1958	118.7	48.1	93.1	73.7	—18.8	54.9	65.3	78.4
1959	153.6	63.7	113.1	104.2	—30.2	74.0	61.1	73.6
1960	137.4	51.6	80.7	108.3	—42.6	65.7	47.6	58.7
1961	124.2	57.7	76.2	105.7	—34.6	71.1	54.6	61.4
1962	119.5	54.2	77.4	96.3	—31.5	64.8	56.3	64.8
1963	152.8	67.4	95.3	124.9	—43.2	81.7	54.0	62.4
1964	201.7	79.2	116.1	164.8	—63.5	101.3	48.1	57.6

the flow of farm machinery between Ontario and the rest of Canada directly from published statistics, the net flow was obtained by deducting effective demand for new farm machinery in Ontario from the available total supply. Demand for farm machinery in Ontario was estimated on the basis of adjusted data on sales of agricultural machinery in Ontario. During the period under review there was a net outflow from Ontario which, on average, amounted to about 33.0 per cent of the available supply.

Although consumption in Ontario generally fluctuated considerably from year to year over the period, there was a very substantial net increase, with the result that demand for farm machinery rose from $62.5 million in 1957 to $101.3 million in 1964. The rapid increase in recent years has been indicative of the expansion of the economy and a steadily rising farm income, resulting in accelerated mechanization of farming operations in Ontario.

Despite the fact that a very large proportion of Canadian production of agricultural machinery has originated in Ontario, consumption in Ontario has amounted to only one fifth to one quarter of total Canadian demand, a reflection of the fact that the industry is located mainly in southern Ontario and its markets primarily in western Canada.

Industrial Machinery: the Canadian Market

During the period 1957-1964 the volume of industrial machinery produced in Canada was considerably larger than that of agricultural machinery. In value terms, output in this industry was about three and one half times as large.

Canadian production of industrial machinery experienced considerable growth during this period. After declining in 1958 due to reduced capital expenditures associated with the general business recession, the value of production grew steadily, reaching $833.7 million in 1964 – an average annual rate of increase of 8.2 per cent for the entire period. Growth accelerated appreciably after 1961 as the economy started on a long upswing which encouraged investment spending. In the three years between 1961 and 1964, an average rate of growth of 17.0 per cent each year was registered.

Canadian exports of industrial machinery increased an average of 13.5 per cent each year over the period, rising from $56.6 million in 1957 to $137.1 million in 1964. As a percentage of production, these exports climbed from 12 per cent in 1957 to over 16 per cent in 1964. In comparison to exports of agricultural machinery, however, this export/production ratio was still relatively small. The comparatively low volume of exports reflects the existence of significant tariff protection in other industrialized nations and, more particularly, Canada's inability to compete effectively with high volume producers such as the United States, West Germany and Great Britain.

Domestic demand for industrial machinery fluctuated in the first part of the period but increased steadily after 1960, reaching $1,742.7 million by 1964. As a result, the average annual rate of growth from 1960 to 1964 was 13.2 per cent, considerably higher than the average annual rate of 6.3 per cent over the 1957-1964 period. Still, the major part of domestic demand – on average 60.9 per cent – was satisfied by imports from abroad.

Industrial Machinery: the Ontario Market

Ontario production of industrial machinery constitutes an important part of total Canadian production, accounting for about 70 per cent of the Canadian total.

CANADIAN MARKET FOR INDUSTRIAL MACHINERY
1957-1964

Year	*Canadian Production of Industrial Machinery*	*Imports*	*Exports*	*Domestic Demand*	*Imports as % of Domestic Demand*	*Exports as % of Canadian Production*
	($ Million)				*%*	
1957	478.5	719.6	56.6	1,141.5	63.0	11.8
1958	415.6	602.4	45.6	972.4	61.9	11.0
1959	447.8	669.7	52.6	1,064.9	62.9	11.7
1960	485.5	648.4	73.3	1,060.7	61.1	15.1
1961	519.3	678.6	69.1	1,128.8	60.1	13.3
1962	608.8	790.8	87.4	1,312.2	60.3	14.4
1963	701.3	821.8	106.7	1,416.4	58.0	15.2
1964	833.7	1,046.1	137.1	1,742.7	60.0	16.4

ESTIMATED ONTARIO MARKET FOR INDUSTRIAL MACHINERY
1957-1964

Year	Ontario Production of Industrial Machinery	Imports into Ontario	Exports from Ontario	Available Supply	Flow to (—) and from (+) Other Provinces	Estimated Demand in Ontario	Imports as % of Available Supply	Exports as % of Production
	($ Million)						%	
1957	316.3	362.7	37.4	641.6	— 66.3	575.3	56.5	11.8
1958	294.3	297.6	32.3	559.6	— 79.3	480.3	53.2	11.0
1959	317.1	335.5	37.2	615.4	— 81.9	533.5	54.5	11.7
1960	339.4	319.7	51.2	607.9	— 85.0	522.9	52.6	15.1
1961	376.9	334.5	50.2	661.2	—104.7	556.5	50.6	13.3
1962	443.1	396.2	63.6	775.7	—118.3	657.4	51.1	14.4
1963	494.8	418.3	75.3	837.8	—116.9	720.9	50.0	15.2
1964	557.2	536.6	91.6	1,002.2	—108.2	894.0	53.5	16.4

Except for a temporary setback in 1958, when the effects of the recession were being felt, production of industrial machinery in Ontario grew steadily from 1957 to 1964. Production increased an average of 8.4 per cent each year, from $316.3 million in 1957 to $557.2 million in 1964; in the five-year period from 1959 to 1964 the average annual rate of growth was 12.0 per cent.

The value of imports increased over the period as a whole but to a somewhat smaller extent than domestic production. As a result imports as a percentage of the available supply of industrial machinery in Ontario tended to decline slightly.

Ontario exports of industrial machinery increased at an average rate of 13.6 per cent each year, reaching a value of $91.6 million in 1964. Growth in the value of exports was especially rapid toward the end of this period when an annual rate of growth of 22.1 per cent was attained. However, it is likely that much of the accelerated growth was the result of the United States' need to supplement its own productive capacity in the face of a continuous and vigorous business expansion. To the extent that this was the case, the large increase in the volume of exports could not be expected to be sustained very much longer.

The supply of industrial machinery available to Ontario — consisting of local production plus imports less exports — fluctuated considerably in the earlier part of the period. From 1960 on, however, the available supply increased significantly and in 1964, its value exceeded $1 billion, $36 million above the 1957 value. This increase was relatively smaller than that in provincial production because of both the relatively slower growth in the value of imports and the very large relative increase in the value of industrial machinery exports.

During the eight-year period there was a consistent net outflow from Ontario to the rest of Canada; this reached a peak value of $118.3 million in 1962 and gradually declined thereafter. This outflow on average corresponded to about 13.5 per cent of the available supply, relatively much smaller than the net outflow of agricultural machinery from Ontario.

After fluctuating irregularly in the late 1950's, demand for industrial machinery in Ontario grew steadily in the new decade, averaging close to 17 per cent in the last three years. During the entire 1957-1964 period, Ontario's demand for industrial machinery was a fairly constant proportion of total Canadian demand, ranging from about 49 per cent to 51 per cent. Actual sales reached $894 million by 1964.

Review of the Canadian Market for Machinery: 1957-1964

During the years 1957 to 1964, output of both farm and industrial machinery increased from $596.5 million to over $1 billion. While growth in the first half of this period was quite modest, the acceleration between 1961 and 1964 — producing an average annual gain of 17.9 per cent in these years — gave rise to an annual growth rate of 8.8 per cent over the whole period.

CANADIAN MARKET FOR MACHINERY (FARM AND INDUSTRIAL)
1957-1964

Year	Canadian Production of Farm and Industrial Machinery	Imports	Exports	Domestic Demand	Imports as % of Domestic Demand	Exports as % of Canadian Production
	($ Million)				%	
1957	596.5	922.4	128.2	1,390.7	66.3	21.5
1958	544.8	800.4	146.9	1,198.3	66.8	27.0
1959	614.0	943.3	175.0	1,382.3	68.2	28.5
1960	637.7	877.6	162.7	1,352.6	64.9	25.5
1961	658.3	910.2	154.3	1,414.2	64.4	23.4
1962	749.6	1,044.0	178.6	1,615.0	64.6	23.8
1963	884.1	1,145.8	220.7	1,809.2	63.3	25.0
1964	1,077.7	1,418.1	277.5	2,218.3	63.9	25.8

While total imports of machinery fluctuated considerably between 1957 and 1961, they increased consistently thereafter, resulting in an average annual rate of growth of 6.3 per cent. During this entire period imports were appreciably in excess of domestic production, and were meeting some 65 per cent of the domestic demand.

Exports of farm and industrial machinery tended to increase over the period, climbing from $128.2 million in 1957 to $277.5 million in 1964. During the last year exports accounted for about 25.8 per cent of total Canadian production, higher than in 1957 but below the 28.5 per cent peak for the period registered in 1959.

Total Canadian demand for machinery increased from $1.4 billion in 1957 to $2.2 billion in 1964, an average growth rate of 6.9 per cent each year. However the actual rate of growth varied considerably between single years: demand declined by about 14 per cent between 1957 and 1958, then partially recovered in 1959, only to decline slightly again the next year. Thereafter domestic demand rose rapidly, the rate of increase each year between 1960 and 1964 averaging about 13.2 per cent.

Review of the Ontario Market for Machinery: 1957-1964

Production of farm and industrial machinery in Ontario followed virtually the same pattern as total Canadian production, not surprising in view of the fact that Ontario's output accounted for about three quarters of the national total. Ontario's average increase was 8.7 per cent each year.

Unlike the situation for Canada as a whole, Ontario's imports of machinery were lower than its production each year. The value of imports fluctuated considerably up to 1960 but increased steadily after that. In 1964 the value of Ontario's machinery imports reached $615.8 million, an annual growth of about 5.9 per cent.

Ontario's exports of machinery increased appreciably from 1957, reaching $207.7 million in 1964. As a proportion of production, export shipments ranged from one quarter to about one third.

Total supply of farm and industrial machinery available in Ontario increased over the 1957 to 1964 period at an annual rate of about 6.8 per cent, with growth accelerating appreciably after 1961. Between 1961 and 1964, total supply grew at an average annual rate of about 15.0 per cent. Throughout the period over 50 per cent of this supply was accounted for by imports.

In every single year there was a net outflow of machinery from Ontario to the rest of Canada. This outflow increased considerably over the period, but was nevertheless still relatively small in relation to available supply.

Demand for machinery in Ontario remained at a high level each year, representing on average about 83.9 per cent of the total supply and reflecting an average yearly growth rate of about 6.6 per cent.

ESTIMATED ONTARIO MARKET FOR MACHINERY (FARM AND INDUSTRIAL)
1957-1964

Year	Ontario Production of Machinery	Imports into Ontario	Exports from Ontario	Available Supply	Flow to (—) and from (+) Other Provinces	Estimated Demand in Ontario	Imports as % of Available Supply	Exports as % of Production
	($ Million)						%	
1957	423.0	413.6	102.1	734.5	— 96.7	637.8	56.3	24.1
1958	413.0	345.7	125.4	633.3	— 98.1	535.2	54.6	30.4
1959	470.7	399.2	150.3	719.6	—112.1	607.5	55.5	31.9
1960	476.8	371.3	131.9	716.2	—127.6	588.6	51.8	27.7
1961	501.1	392.2	126.4	766.9	—139.3	627.6	51.1	25.2
1962	562.6	450.4	141.0	872.0	—149.8	722.2	51.7	25.1
1963	647.6	485.7	170.6	962.7	—160.1	802.6	50.5	26.3
1964	758.9	615.8	207.7	1,167.0	—171.7	995.3	52.9	27.4

LONG-TERM FORECASTS OF MARKET DEMAND

Projection of Canadian Market Demand for Machinery to 1976

To project demand for farm and industrial machinery, some conclusion must be reached concerning the determinants of investment spending. Since a very large proportion of purchases of machinery is financed out of internal funds and capital consumption allowances, it is likely that, in the period to 1976, the level of interest rates and the availability of credit will in general have little restrictive influence on capital expenditure decisions. Indications are that the forecast period will be characterized by conditions of relatively full employment and fairly rapid economic growth. Under these circumstances, it is likely that a large part of business investment will be primarily in direct response to expanding demand. However, the need for capital replacement will continue to be an important determinant. Although a number of other factors such as changes in technology and government policies will undoubtedly affect business investment decisions, growing market opportunities and replacement needs will have a preponderant influence during the forecast period.

Projections of total Canadian output in terms of Gross National Expenditure valued in constant 1957 dollars were made. The forecast to 1970 is in line with that of the Economic Council of Canada which suggested that, in order to reach its potential level by 1970, actual Canadian output would have to grow at a rate of 5.5 per cent per annum over its 1963 value. The projection to 1976 assumes that between 1970 and 1976 output would grow five per cent per year. On this basis, it is estimated that total output will be in the vicinity of $57 billion in 1970 (in constant 1957 dollars) and approach $77 billion by 1976.

An attempt was made at forecasting the market demand for farm and industrial machinery using historical capital-output ratios. This method, although theoretically sound, proved unworkable because of the unreliability and deficiencies of estimates of the stock of machinery and equipment in existence and the problems associated with the determination of the rate of depreciation. Consequently, two other methods, based on a more pragmatic approach, have been used to by-pass existing statistical data deficiencies.

The first of these involves the application of incremental ratios of annual investment in new machinery and equipment to total output. This method obviates the need for estimates of the size of the capital stock and for any explicit assumptions regarding the rates of depreciation applicable to the various components of the stock. The magnitude of the ratio can be influenced by a number of factors whose effects are difficult to quantify; for example, the age of the capital stock, changes in technology, the extent to which the economy's productive capacity is effectively used, and the relative prices of labour and capital. However, adjusting available time series for anticipated structural changes, it has been estimated that during the forecast period the ratio will be about 1.6, a value slightly larger than has been the case in recent years but lower than the post-war average.

In order to arrive at a more detailed sectoral forecast, it has been necessary to estimate the proportion of expenditure on new machinery and equipment in the forecast period attributable to purchases of farm and industrial machinery. In the years 1957 to 1964,

market demand for farm and industrial machinery averaged about 56 per cent of total business expenditure on new machinery and equipment with the percentage rising each year except for 1960. On the basis of this upward trend, it is concluded that between 1964 and 1976 the percentage will likely be somewhat higher than the average level between 1957 and 1964 and might perhaps be about 60 per cent.

The second method used is based on a detailed analysis of the statistical relationship between the rates of growth of GNE and the market demand for machinery. This indicates that, subject to trend adjustment, only a moderate structural change is to be anticipated.

Both approaches yield very much the same results for 1970. Each suggests that in 1970 the combined market demand for farm and industrial machinery will amount to about $2.9 billion in constant 1957 dollars, equivalent to an average annual rate of growth of 6.5 to 6.8 per cent in the 1964 to 1970 period.[4]

For 1976, however, the two approaches used produce quite different results. The incremental capital-output ratio method suggests a significant decline in the rate of growth of expenditure on farm and industrial machinery after 1970. The other approach implies a rate of growth of about 6.4 per cent each year, just slightly lower than that between 1964 and 1970. The two estimates of the value of expenditure in 1976 range from about $3.3 billion to $4.2 billion.

Historically, the rate of growth of expenditure on farm and industrial machinery has fluctuated much more widely than the rate of growth of total output. Consequently, it is expected that in the years 1970 to 1976, as the rate of growth of GNE declines from 5.5 per cent to 5.0 per cent, the rate of growth of expenditure on farm and industrial machinery will fall to a greater extent. Thus the estimates derived by our second method, implicitly assuming fluctuations of equal degree in both rates, will probably prove too large. The growth path of market demand for farm and industrial machinery between 1970 and 1976 derived from our first estimating procedure would therefore seem to be more realistic and reliable.

In the years 1957 to 1964, market demand for farm machinery as a percentage of total demand for ma-

[4]It should be noted that these estimates are consistent with the projection of the Economic Council of Canada. These forecasts imply a growth rate for total business expenditure on new machinery and equipment of approximately 9.1 per cent between 1963 and 1970, whereas the Economic Council projects the rate of growth at about 9.6 per cent for the same period.

MARKET DEMAND IN CANADA FOR MACHINERY (FARM AND INDUSTRIAL) TO 1976 EXPRESSED IN CONSTANT 1957 DOLLARS

Year	*Total Canadian Output (G.N.E.)*	*Canadian Market Demand for Machinery*				
		Farm Machinery		*Industrial Machinery*		*Total Value*
	Value	*Value*	*% of Total*	*Value*	*% of Total*	
	$ Million	*$ Million*	*%*	*$ Million*	*%*	*$ Million*
Actual:						
1957	31,909	249.2	17.9	1,141.5	82.1	1,390.7
1958	32,284	216.8	18.4	959.2	81.6	1,176.0
1959	33,398	299.2	22.6	1,023.6	77.4	1,322.8
1960	34,200	272.5	21.4	1,002.3	78.6	1,274.8
1961	35,081	261.4	19.7	1,062.8	80.3	1,324.2
1962	37,429	272.8	18.3	1,217.1	81.7	1,489.9
1963	39,352	348.2	21.2	1,292.1	78.8	1,640.3
1964	41,886	422.8	21.6	1,538.6	78.4	1,961.4
Projections:						
Method I						
1970	57,244	500.8	17.5	2,361.2	82.5	2,862.0
1976	76,712	626.9	19.0	2,672.7	81.0	3,299.6
Method II						
1970	57,244	509.4	17.5	2,401.3	82.5	2,910.7
1976	76,712	802.4	19.0	3,420.9	81.0	4,223.3

chinery on the whole exhibited a steady upward trend, rising from 17.9 per cent to 22.6 per cent.

It must be noted, however, that the 1957 to 1964 period was one of generally good crop years, especially in western Canada. For this reason, purchases of farm machinery during the period were probably relatively high. Furthermore, consideration of the life expectancy of farm machinery suggests that, following this period of relatively high levels of purchases, demand for farm machinery will not be supported by replacement needs to the same extent after 1964 as was the case before.

At present, farms in western Canada – especially grain farms – are very highly mechanized. Although increases in the average size of farms are likely to continue and so permit the more efficient use of larger machinery, it is assumed that this trend will not raise the rate of mechanization in western Canada significantly above current levels.

While farms in eastern Canada are less mechanized than their counterparts in western Canada, it is likely that during the forecast period eastern Canadian farms will experience a relatively greater increase in mechanization than farms in western Canada.

Recent agricultural studies and forecasts suggest that between 1964 and 1976 there will be a relative shift in agricultural production toward such products as livestock and feed grains in response to changes in the pattern of domestic demand. It is also likely that, in the forecast period, the agricultural labour force will continue to decline. However, it is fair to assume that these two trends will not affect the pace of mechanization in any essentially different way than they did before 1964.

These factors and recent forecasts of agricultural output have led to the conclusion that demand for farm machinery is likely to account for 17-18 per cent of the total Canadian demand for new machinery between 1964 and 1970, and will probably again rise to about 19-20 per cent in the years 1970 to 1976.

Assuming that demand for agricultural machinery in 1970 will comprise 17.5 per cent of the total demand for machinery, the value of demand for farm machinery will amount to some $500 million and expected sales of industrial machinery will reach about $2.4 billion (both in constant 1957 dollars). In 1976 approximately 19 per cent of the total demand for machinery, equivalent to some $800 million, will be accounted for by agricultural machinery and equipment; demand for industrial machinery will range between about $2.7 billion and $3.4 billion.

In view of the long-standing existence of free trade in farm machinery between Canada and the United States and the highly integrated nature of the industry in the two countries, the relative share of imports in total demand for farm equipment is not expected to change significantly during the forecast period.

While the relative share of imports in total domestic demand for industrial machinery experienced a moderate but steady decline during the period 1957 to 1964, the recent tariff reductions under the Kennedy Round Agreement – which will reduce the average tariff rate from 22.5 per cent to 15 per cent – are likely to reverse this trend. However, lower Canadian tariffs on raw materials and components used by the industry will to some extent offset the increased disadvantage of domestic producers.

Projection of Ontario Market Demand for Machinery to 1976

From 1957 to 1964, total expenditures on farm and industrial machinery in Ontario accounted for a fairly stable proportion of the equivalent national aggregate, ranging from about 44 per cent to 46 per cent. In order to arrive at a preliminary estimate of total demand for machinery to 1976, it has been assumed that the following structural relationship will continue (with only minor fluctuations throughout the forecast period):

$$O = 0.446\,C + u \qquad (r^2 = 0.98)$$

where:

O = expenditures on new machinery in Ontario
C = expenditures on new machinery in Canada
u = random fluctuations

Under this assumption, the rates of growth of expenditure on total machinery will be virtually identical for both Canada and Ontario. The Ontario market demand for farm and industrial machinery (in constant 1957 dollars) is expected to reach about $1.3 billion in 1970, ranging from $1.5 billion to $1.9 billion by 1976.

Over the 1957 to 1964 period, demand for farm machinery represented an average of about 10 per cent of the total demand for machinery. At present, agricultural production in Ontario is not very highly mechanized in comparison with farm units in western Canada. Also, the scope for mechanization of farms in Ontario can be expected to broaden considerably as the trend to a larger average size of farm continues. For these and other reasons, it is anticipated that the rate of mechanization on farms

MARKET DEMAND IN ONTARIO FOR MACHINERY (FARM AND INDUSTRIAL) TO 1976 EXPRESSED IN CONSTANT 1957 DOLLARS

Year	Ontario Market Demand for Machinery					Total Ontario Demand as % of Canadian Demand
	Farm Machinery		Industrial Machinery			
	Value	% of Ontario Demand for All Machinery	Value	% of Ontario Demand for All Machinery	Total Value	
	$ Million	%	$ Million	%	$ Million	%
Actual:						
1957	62.5	9.8	575.3	90.2	637.8	45.9
1958	52.7	10.0	472.5	90.0	525.2	44.7
1959	69.7	12.0	511.6	88.0	581.3	43.9
1960	61.3	11.0	493.5	89.0	554.8	43.5
1961	65.1	11.1	522.5	88.9	587.6	44.4
1962	58.4	8.8	607.8	91.2	666.2	44.7
1963	72.4	9.9	655.3	90.1	727.7	44.4
1964	90.0	10.2	790.0	89.8	880.0	44.9
Projections:						
Method I						
1970	140.4	11.0	1,136.0	89.0	1,276.4	44.6
1976	161.9	11.0	1,309.7	89.0	1,471.6	44.6
Method II						
1970	142.8	11.0	1,155.4	89.0	1,298.2	44.6
1976	207.2	11.0	1,676.4	89.0	1,883.6	44.6

in Ontario will be somewhat more rapid during the forecast period than was the case during the years 1957 to 1964. On the basis of this trend configuration, it is estimated that market demand for farm machinery will account for about 11 per cent of the total composite demand for machinery during the forecast period.

On this basis Ontario's market demand for farm machinery in constant 1957 dollars will be approximately $140 million by 1970 and demand for industrial machinery will reach between $1.1 and $1.2 billion. It is estimated that by 1976, market demand for agricultural machinery will range between $160 million and $210 million and demand for industrial machinery will be between $1.3 billion and $1.7 billion.

Ontario's demand for farm machinery in 1970 is likely to amount to about 28 per cent of the Canadian demand for farm machinery, reflecting largely accelerated mechanization of farm operations in Ontario. By 1976, Ontario demand will represent about 25.8 per cent, still above the average which held between 1957 and 1964.

On the basis of these projections, Ontario's market demand for industrial machinery will account for about 48.1 per cent and 49.0 per cent of the corresponding Canadian demand in 1970 and 1976 respectively.

APPENDIX

TABLE A-1
ANNUAL PRODUCTION OF MACHINERY IN ONTARIO AND CANADA, 1957-1964

Year	Ontario			Canada			Ontario as % of Canada		
	Farm Machinery	Industrial Machinery	Total	Farm Machinery	Industrial Machinery	Total	Farm Machinery	Industrial Machinery	Total
	($000's)			($000's)			%		
1957	106,650	316,347	422,997	118,044	478,508	596,552	90.3	66.1	70.9
1958	118,725	294,315	413,040	129,175	415,572	544,747	91.9	70.8	75.8
1959	153,632	317,070	470,702	166,191	447,844	614,035	92.4	70.8	76.7
1960	137,429	339,385	476,814	152,123	485,550	637,673	90.3	69.9	74.8
1961	124,191	376,918	501,109	138,981	519,338	658,319	89.4	72.6	76.1
1962	119,539	443,055	562,594	140,820	608,829	749,649	84.9	72.8	75.0
1963	152,792	494,844	647,636	182,767	701,286	884,053	83.6	70.6	73.3
1964	201,715	557,224	758,939	243,963	833,699	1,077,662	82.7	66.8	70.4

TABLE A-2
FARM IMPLEMENT AND EQUIPMENT SALES IN CANADA AND ONTARIO 1957-1965

Year	Farm Implement and Equipment Sales[1]		Coefficient a: B/A
	Canada A	Ontario B	
	($000's)		
1957	183,722	46,152	.251
1958	205,993	50,060	.243
1959	251,119	58,612	.233
1960	258,778	58,175	.225
1961	241,420	60,131	.249
1962	282,677	60,517	.214
1963	337,562	70,304	.208
1964	380,133	81,125	.213
1965	426,967	86,452	.202

[1]Including repair parts.

Note: Coefficient a as determined above is used to derive Ontario's demand for farm machinery (d_o) from total Canadian demand (d_c): *i.e.* $a(d_c) = d_o$.

TABLE A-3
VALUE OF TOTAL MANUFACTURING OUTPUT IN CANADA AND ONTARIO 1957-1964

Year	Value of Total Manufacturing Output		Coefficient b: D/C
	Canada C	Ontario D	
	($000's)		
1957	21,452,343	10,811,118	.504
1958	21,434,815	10,579,486	.494
1959	22,830,827	11,438,355	.501
1960	23,279,804	11,479,327	.493
1961	23,438,956	11,563,734	.493
1962	25,790,087	12,919,454	.501
1963	28,014,888	14,262,208	.509
1964	30,856,103	15,842,949	.513

Note: 1957-1960 data are not comparable directly with 1961-1964 data due to changes in the method of valuing shipments in the smelting and refining industry.

Correlating Equations:

$$(1)\quad I_{fo} = a\,(I_{fc}) + u_1$$

$$(2)\quad I_{io} = b\,(I_{ic}) + u_2$$

$$(3)\quad E_{fo} = \frac{P_{fo}}{P_{fc}}\,(E_{fc}) + u_3$$

$$(4)\quad E_{io} = \frac{P_{io}}{P_{ic}}\,(E_{ic}) + u_4$$

Coefficients:

$a = B/A$ (see Table A-2)

$b = D/C$ (see Table A-3)

Notation:

I_{fo} = Ontario imports of farm machinery
I_{fc} = Canadian imports of farm machinery
I_{io} = Ontario imports of industrial machinery
I_{ic} = Canadian imports of industrial machinery
E_{fo} = Ontario exports of farm machinery
E_{fc} = Canadian exports of farm machinery
E_{io} = Ontario exports of industrial machinery
E_{ic} = Canadian exports of industrial machinery
P_{fo} = Ontario production of farm machinery
P_{fc} = Canadian production of farm machinery
P_{io} = Ontario production of industrial machinery
P_{ic} = Canadian production of industrial machinery
u_1, u_2, u_3, u_4 = stochastic disturbance terms

TABLE A-4
ESTIMATED DEMAND FOR INDUSTRIAL MACHINERY, 1957-1964
($ Million)

In Ontario					In Canada Excluding Ontario				
Year	Available Supply (q)	Shipments from Ontario to Other Provinces (s)	Shipments to Ontario from Rest of Canada (t)	Estimated Demand for Industrial Machinery (v)	Year	Available Supply (w)	Shipments to Ontario (x)	Shipments from Ontario (y)	Estimated Demand for Industrial Machinery (z)
1957	641.6	318.2	251.9	575.3	1957	499.9	251.9	318.2	566.2
1958	559.6	283.2	203.9	480.3	1958	412.8	203.9	283.2	492.1
1959	615.4	307.1	225.2	533.5	1959	449.5	225.2	307.1	531.4
1960	607.9	308.2	223.2	522.9	1960	452.8	223.2	308.2	537.8
1961	661.2	335.2	230.5	556.5	1961	467.6	230.5	335.2	572.3
1962	775.7	387.1	268.8	657.4	1962	536.5	268.8	387.1	654.8
1963	837.8	411.4	294.5	720.9	1963	578.6	294.5	411.4	695.5
1964	1,002.2	488.1	379.9	894.0	1964	740.5	379.9	488.1	848.7

$s = q\,(1 - D/C)$ $\quad x = t$
$t = w\,(D/C)$ $\quad y = s$
$v = q - s + t$ $\quad z = w - x + y$

ONTARIO ECONOMIC INDICATORS - SEASONALLY ADJUSTED

(*Figures for Canada)

		1966				1967										
LEADING INDICATORS		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
Average Weekly Hours Worked in Manufacturing	Number	40.6	40.8	40.5	40.5	39.8	39.9	40.1	40.3	40.1	40.4	40.3	40.6	40.4		
New Orders in Manufacturing*	$ Million	3,076	3,114	3,125	3,361	3,079	3,038	2,981	3,094	3,024	3,117	3,242	3,107	3,161	3,157	
Housing Contracts	$ Million	52.4	80.5	40.8	77.4	50.0	68.3	48.9	60.1	89.5	59.6	85.0	62.0	88.4	73.1	
Business, Industrial and Engineering Contracts	$ Million	120.7	128.7	113.2	195.9	122.8	121.0	160.6	104.4	153.8	136.3	133.6	125.9	85.0	121.5	
Money Supply*	$ Million	20,766	20,950	21,122	21,143	21,345	21,724	22,002	22,340	22,613	22,542	22,808	23,277	23,805	23,904	
T.S.E. Industrial Index	1956=100	144.0	147.2	148.1	147.9	153.3	159.6	163.5	163.4	157.2	164.7	174.0	170.8	171.1	159.5	165.7
COINCIDENTAL AND LAGGING INDICATORS																
Average Hourly Earnings in Manufacturing	$	2.41	2.43	2.42	2.41	2.42	2.46	2.47	2.47	2.48	2.51	2.55	2.56	2.57		
Gross National Product*	$ Million	57,848	- - - - - - - -		59,124	- - - - - - - -		60,308	- - - - - - - -		61,592	- - - - - - - -		61,872		
Cheques Cashed in Clearing Centres	$ Million	4,756	4,845	4,723	4,907	5,124	4,921	4,676	5,116	4,916	5,159	5,134	4,884	5,177	5,104	
Retail Trade	$ Million	724	718	727	720	714	702	711	720	707	761	728	749	773	757	
Labour Force	000's	2,751	2,759	2,738	2,746	2,773	2,780	2,817	2,840	2,840	2,848	2,871	2,868	2,849	2,845	2,849
Employed	000's	2,670	2,685	2,665	2,680	2,698	2,705	2,733	2,750	2,752	2,749	2,771	2,771	2,760	2,738	2,755
Unemployed	000's	81	74	73	66	75	75	84	90	88	99	100	97	89	107	94
Unemployed as % of Labour Force	%	2.9	2.7	2.7	2.4	2.7	2.7	3.0	3.2	3.1	3.5	3.5	3.4	3.1	3.8	3.3
Wages and Salaries	$ Million	989	1,002	1,010	1,018	1,022	1,030	1,034	1,045	1,051	1,053	1,064	1,071	1,073		
Industrial Employment Index	1961=100	123.7	124.4	125.0	125.0	126.3	125.8	125.9	125.5	124.8	124.3	124.9	124.6	124.1		
Total Industrial Production*	1949=100	277.2	280.1	280.6	280.1	278.6	277.7	277.1	280.7	280.0	280.8	283.6	284.6	284.7	282.5	
Total Manufacturing		249.1	250.5	251.1	250.6	247.7	246.7	246.3	249.7	246.9	247.3	249.0	250.9	251.9	248.2	
Non-Durables		239.9	242.3	243.5	245.2	242.7	242.4	241.0	244.5	242.7	245.1	243.8	245.0	246.0	246.5	
Durables		259.8	260.2	260.0	257.0	253.5	251.7	252.5	255.7	251.8	249.9	255.2	257.7	258.8	250.2	
Mining		391.9	410.5	406.3	404.4	411.1	402.5	401.9	411.4	415.4	424.2	428.4	426.2	423.5	426.3	
Electric Power and Gas Utilities		519.3	515.0	523.1	525.5	530.8	546.6	541.9	539.1	563.2	555.1	572.9	565.5	555.8	568.1	
Primary Energy Demand (Annual Rate)	BKWH	47.92	48.67	49.91	50.83	49.65	51.25	50.41	50.59	51.86	50.15	51.03	51.80	51.27	52.40	
ECONOMIC INDICATORS NOT SEASONALLY ADJUSTED																
Domestic Exports*	$ Million	888.6	878.6	954.1	899.0	926.5	803.7	827.8	872.5	1,039.2	1,009.1	937.2	888.7	823.5		
Imports for Consumption*	$ Million	825.7	936.2	942.8	861.5	893.1	765.6	863.8	972.3	1,039.2	941.3	1,112.1	841.8	871.4	924.3	
Foreign Exchange Reserves*	US $ Million	2,244	2,223	2,242	2,236	2,238	2,194	2,203	2,188	2,195	2,169	2,183	2,198	2,221	2,303	
Price Index of Industrial Materials*	1935-39=100	258.8	256.2	255.6	254.7	253.5	253.8	252.2	252.5	254.6	256.7	253.0	252.0	251.2	250.1	254.8
Business Failures	Number	63	56	54	57	71	58	59	73	40	59	52	26	34		
Business Failures - Liabilities	$ Million	2.9	2.0	2.7	4.7	4.2	4.0	2.7	2.6	3.3	2.9	3.2	4.1	2.6		

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